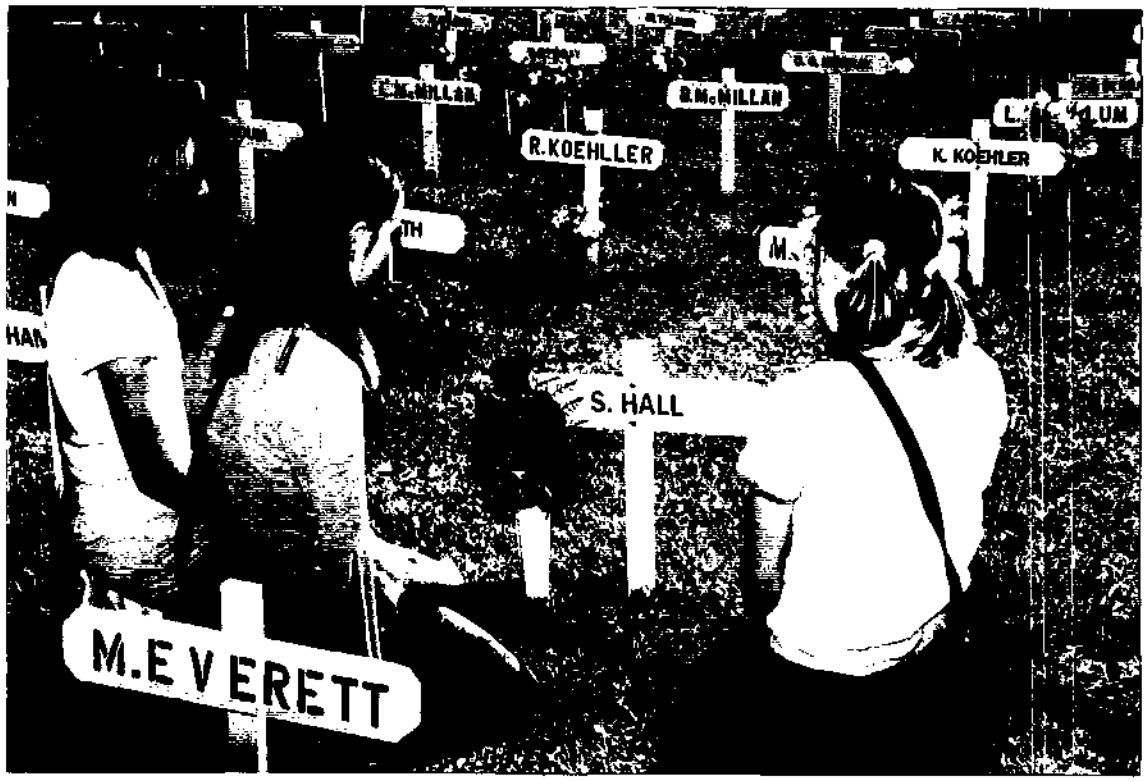
A Community Response



Libby Area Technical Assistance Group, Inc.

Draft Report

June 2004

Draft Report

Review of: *Final Draft Response Action Work Plan, Final Draft Design Analysis Report, Final Draft Pre-Design Inspection Activities Work Plan and Partial Review of Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria–Technical Memorandum*

Prepared by

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Contracted Technical Advisor
Libby Area Technical Assistance Group, Inc.

Presented to
Board of Directors
Libby Area Technical Assistance Group, Inc.

Date
June 2004

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Introduction

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Section One Libby Asbestos Site History

1.1 Libby Area Technical Assistance Group (LATAG) - Introduction

As early as 1980 the Environmental Protection Agency (EPA) became aware of the high level of human exposure to the amphibole asbestos in Libby, Montana due to the mining, milling and transportation of asbestos contaminated products by W.R. Grace. Midwest Research Institute from Kansas City came to Libby in October 1980 and performed a series of studies under a Task Order from the Environmental Protection Agency (Task 32). A report was issued to the EPA on September 27, 1982 in response to Contract number 68-01-5915. A second report was then issued in 1985. The reports to the EPA from Midwest Research Institute were conclusive as to the findings of significant exposure potential to amphibole asbestos by the Libby community. If at any time between 1980 and 1985 the Environmental Protection Agency had addressed the problems inherent in the MRI reports, the ongoing exposure would have been brought under control in Libby. W.R. Grace closed its operations in 1990 and for nearly ten years high and low grade exposures were allowed to take place. In 2000 the EPA Inspector General's office performed a full investigation to determine the underpinning reasons as to why the agency did not act to control the on-going exposures in Libby and a final determination was rendered stating that during the time the EPA suffered an internal "communications breakdown" during that time period.

Hypothetically, had the agency acted to stop the exposures, many victims presently suffering the adverse health impacts of asbestos exposure may have lived healthy, productive lives instead of facing the painful, financially devastating effects of debilitating exposures. Millions of dollars have been spent and will continue to be spent because simply nothing was done to stop exposures from 1980 to 1990. In addition it took the EPA nine more years to respond under *emergency response* which it did only as a result of adverse news coverage. For 19 years exposures continued in the community. The federal government had knowledge of this ongoing exposure yet nothing was done to correct the situation. Victims will ultimately pay the price for this "breakdown in agency communications." The W.R. Grace Medical Plan covers some of the expenses directly related to specific medical conditions. Hopefully this will continue throughout the lives of thousands of exposed victims. Can one truly understand the impact on a family when the primary wage earner is no longer able to work? Ongoing medical bills mount up in a mere attempt to make life a bit more comfortable while the victim slowly suffocates. Aside from the tragic asbestos contamination that now reaches across the small towns of Libby and Troy there are the silent effects of 19 years of

inaction, the financial devastation of families and in some cases the community as a whole does not allow victims to seek additional medical coverage beyond that offered voluntarily by W.R. Grace. Many cannot afford comprehensive medical coverage which serves to increase financial risk in the event of family illness or injury. This same devastation limits homeowners who wish to repair or remodel older homes. This same devastation will continue to press upon the homeowners once the EPA determines the cleanup is complete and long term maintenance of properties will continue long into the future. As a result of many circumstances, the community of Libby suffers the distinction of being the second poorest community in the state of Montana, a condition which will only get worse given the long term medical costs and the extended latency period for asbestos related disease. The 19 years the federal government did not act to stop exposure in Libby could very well be the strategic years of exposure that finally brings the town to its knees as the medical costs begin to mature in proportion to the exposed victims.

Thankfully, in 1999 the United States Environmental Protection Agency (EPA) Region Eight began response actions as mandated under CERCLA at industrial sites as well as residential and commercial locations in Libby, Montana. Following further mandate under CERCLA related to the public heath impacts of hazardous material exposure, the EPA's Agency for Toxic Substances and Disease Registry (ATSDR) performed a public health screening and finally issued a number of reports including *Public Health Assessment for Libby Asbestos Site and Year 2000 Medical Testing of Individuals Potentially Exposed to Asbestosform Minerals Associated with Vermiculite in Libby, Montana.* For many victims, exposure was from occupational exposures as a result of employment with W.R. Grace. Others received secondary exposure resulting from a normal life within the contaminated area. The work of ATSDR was neither comprehensive or deemed complete in that it had only begun to discover historic exposures and had no complementary screening capacity for residents receiving exposures after 1990. Nor does it address the catastrophic cost of ongoing medical coverage for the segment of the Libby community that has been thus far identified. Attempts to get the federal government to declare Libby a "Public Health Emergency" have fallen on deaf ears all the time offering little statutory or administrative justification for yet another failure to act on behalf of the E P A. The entire burden of health care coverage for the select group of victims encountering exposure up to 1990 falls to the whims of W.R. Grace, who at anytime could stop this coverage and shift responsibility to either the patient, the Libby Health Care delivery system, Lincoln County or the State of Montana.

Like it or not, the health care and cleanup components of the recent response actions employed by the EPA cannot be separated due to the vulnerable economic position the community faces caused by the ever looming potential of imposing health care costs and its drain on community resources.

The towns of Libby and Troy each have a host of victims exposed before 1990 and given the discovery of so many secondary exposures, caused by any number of activities, one can assume there are many more community members out there with asbestos related disease progressing through some stage of latency who have not been screened. Additionally, one of the most important secondary exposure pathways uncovered by EPA research is identified as exposure to interior dust contaminated with LA fibers. No one including the EPA, ATSDR, CARD or the community in general, knows the future implications of secondary exposure to LA fibers and sadly will have to wait decades to find out. Also, over 80 Libby residents have taken jobs as cleanup workers and each day face the high potential of low dose exposure. It is for these reasons the Libby Area Technical Assistance Group (LATAG) has outlined as its mission to "stop exposure" both now and in the future.

1.2 Historic Exposure

Throughout the years thousands of Libby and south Lincoln County residents have been exposed to the injurious health effects caused by contact with Libby Amphibole Asbestos (LA). Tragically, these exposures result because of both primary and secondary exposure and come through a number of exposure pathways.

The first component of primary exposure came as a result of occupational association with the W.R. Grace mining, milling and exportation activities in Libby. The primary exposure resulted from what has been determined as heavy dose inhalation resulting from occupational exposure. Center for Asbestos Related Disease (CARD) director Brad Black, MD and Alan Whitehouse, MD pulmonologist from Spokane, WA attend to a number of victims who received exposure in an occupational setting. The second group of exposed victims came as a result of what has been titled "secondary exposure" and includes victims not employed by W.R. Grace but who came into contact with Libby Amphibole Asbestos fibers through any number of secondary pathways. (74 employees with suits against Champion International, attendees at sporting events staged at Libby high school, baseball park attendees, greenhouse workers etc.) Further discussion about the health impacts of secondary exposure will be presented in the LATAG's response to *Screening Level Estimates of Exposure and Risk from Libby Amphibole in Air, Dust, and Soil.* Many of the cases reported by attending physicians come as a result of what has been determined to be low dose, infrequent exposure. This knowledge greatly troubles the Libby medical community. (See "Asbestos-Related Pleural Disease Due to Tremolite Associated with Progressive Loss of Lung Function: Serial Observations in 123 Miners, Family Members, and Residents of Libby, Montana" American Journal of Industrial Medicine 46:219-225 (2004) by Dr. Alan Whitehouse accepted May 13, 2004.)

Without diminishing the terrible health impacts experienced by those who worked around LA on a daily bases, the more covert pathways associated with secondary exposure and their catastrophic and crushing health effects struck without the slightest

warning which may have lead to the implementation of protective safeguards. LATAG believes the damaging effects of secondary exposure to LA material continues in the Libby community and will continue until the material is either removed or permanently isolated from human access within the community.

With respect to the concerns over both the historic and present exposure to LA, the most current medical information is located at the CARD Clinic, or with Drs. Black or Whitehouse, and is available for the LATAG to review in the future and fully engage itself with the process of risk assessment for the Libby Asbestos Site. LATAG will work with Dr. Black and his staff, in particular Patricia Cohan, RN and Dr. Whitehouse as a consulting resource from which LATAG can rely for interpretation of existing and historic medical data.

Historic information clearly identifies the health effects of low dose exposure on a substantial population denoted within the case files used to support a number of LATAG concerns relating to the amount of Libby Amphibole Asbestos proposed to be left in place under *EPA and Volpe Center's- Final Draft Response Action Work Plan.* These assumptions are subsequently addressed in Sections Four and Five (Work Plan Analysis) and Section Six (Risk Assessment).

This LATAG response document is designed to be the first of several documents prepared for the Libby Area Technical Assistance Group by the contracted Technical Advisor. This document is specifically meant to provide the EPA with detailed information as to LATAG concerns. This method is employed to support LATAG's mandate to educate the impacted community as well as advise the community on the advancement of public comment regarding work plans developed for the Libby Asbestos Site.

Through the continuous involvement of the technical and risk assessment groups of the LATAG, the following assumptions have been derived and set forth by the contracted Technical Advisor. Final use of the enclosed information rests entirely with the sponsoring organization, LATAG. The information contained in this report should be deemed confidential until formally released by the impaneled LATAG board.

1.3 Report Purpose

The following report has been prepared under contract to the Libby Area Technical Assistance Group, Inc (LATAG) by its Technical Advisor, Gordon Sullivan.

The purpose of this report is twofold and will include:

1) a baseline of information from which the LATAG can make future decisions in accord with their assigned tasks as identified under the Technical Assistance Grant for the Libby Asbestos Site.

2) to present information to the Environmental Protection Agency outlining LATAG's comments to recently released technical documents including: *Final Draft Response Action Work Plan, Final Draft Pre-Design Inspection Activities Work Plan, Final Draft Design Analysis Report and in part Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria–Technical Memorandum.*

In the preparation of this report the Technical Advisor includes a broad selection of historic quotes and inserts taken from Environmental Protection Agency documents. This has been done in a effort to provide the LATAG Board with a representative cross-section of historic information relating to the various stages of cleanup, health screening and funding requests for the Libby Asbestos Site project from 1999 onward. It is important that the LATAG Board begin its representation with as complete an assessment as possible of past actions, documents and protective positions taken by the responding agency. It is imperative that the LATAG Board know exactly the cleanup process within the various response actions available under CERCLA and the rights, privileges and responsibilities under each phase of response action.

1. 4 Emergency Response Action and Remedial Action

The members of the LATAG Board of directors should proceed with the firm understanding as to where we are on the Environmental Protection Agency's schedule of response in light of the fact that standards under *Emergency Response* and *Remedial Response* are very different in nature. However, it is also important to realize the present directives of the EPA as contained within a number of their operating documents including the *Final Draft Analysis Report and the Final Draft Response Action Work Plan* address residential and commercial cleanup activities designed to be permanent in nature. That is to say, the expensive cleanup of contaminated structures within Libby is meant to be a final approach to cleanup. LATAG believes this to be true because throughout the language in the various documents the EPA and Volpe Center maintain that it is not their intent to cleanup structures under *Emergency Response* and return to re-clean the same structures in the event the more comprehensive risk assessment standards are developed in the future. It is stated that the proposed clean up of structures in Libby is at a level the agencies believe to be substantial enough to ensure protection, even if a more responsive risk model were to be used. LATAG disagrees and proceeds with this response report accordingly.

The *Final Draft Response Action Work Plan and Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria- Technical Memorandum* are documents designed to direct work under EPA *Emergency Response*. However, many of the activities outlined which are included in the residential and commercial structure

cleanup are meant to be a final solution in order to ensure the project continues to be cost effective.

Libby Asbestos Site Residential/ Commercial Cleanup Action Level and Clearance Criteria (Cleanup Approach and Decision Required For Each Property– Page 3 & 4) states:

"For the properties requiring emergency response cleanup, EPA is adopting cleanup procedures and criteria that will help ensure we conduct only one cleanup action at individual properties, even if action levels are lowered or changed in the future. It is obviously inconvenient, impractical, and costly to clean a property twice. This approach is cost effective and protective."

The various levels of EPA response to a hazardous site include:

- *Remedial Investigation*- a step that is used to actually define the problem.
- *Feasibility Study*- a step used to determine if a material can be removed or cleaned.
- *Emergency Response*- a step generally employed to clean up material posing an urgent or immediate threat to human health or the environment.
- *Record of Decision*- a step used to offer the public the chance to respond to work or cleanup plans.
- *Remedial Action*- a step guided by a comprehensive Remedial Action Work Plan. This step generally offers the permanent solution provided within CERCLA to address problems associated with a Superfund Site.
- *Operations and Maintenance*- a step employed to maintain any hazardous material left in place at a superfund site.

The Libby Asbestos Site is different from more conventional EPA sites with respect to the sequential flow of response actions. Starting with *Remedial Investigation* thru *Operations and Maintenance,* because of the serious nature of the health hazard uncovered in Libby and the EPA's overwhelming need to control the most serious human exposures as a first step in cleanup. Therefore, the Libby site is still operating under *Emergency Response* while additional work under *Remedial Investigation* continues prior to the future release of the project *Feasibility Study*.

Therefore, residential and commercial removals continue to be performed under *Emergency Response* and will be guided by the proposed *Final Draft Response Action Work Plan* and *Libby Asbestos Site Residential/ Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum* . However, under the implementation of the

plan and in past remediation actions performed during the 2003 cleanup season, work was considered by the EPA to offer a final solution to the hazardous material contamination. This fact seems to make the residential / commercial cleanup actions resemble a response under some phase of *Remedial Action* as opposed to *Emergency Response.*

Regulatory Process Considerations "EPA is currently conducting emergency response removal actions in Libby. This document sets forth action levels and clearance criteria that are applicable to these emergency response actions only. While emergency response continues, EPA is also conducting a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS will conclude with the development of a proposed plan, extensive public opportunities for public comment, and publication of Record of Decision (ROD) that will set forth action levels and cleanup decisions for Remedial Actions in Libby. Until a ROD is published, it is expected that this memorandum will guide decision making for emergency response cleanup actions at residential and commercial properties in Libby (Page 1-2)".

"The RI/FS is expected to be complete in approximately July 2005, at which time the total number of properties requiring cleanup will be known (page 2)."

Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria, Draft Final December 15, 2003–

"Again, final site-specific cleanup standards will be established upon completion of the RI/FS and publication of a ROD. Similarly, the site specific decision-making approach, action levels, and clearance criteria set forth here may be changed upon receipt of new information. This has two important implications. First, some of the properties will not meet any of the criteria for emergency response, but may meet lower or different criteria established in the future. In such an instance, these properties would be addressed later. Second, it is possible that properties that are earmarked for cleanup based upon the criteria set forth here may not require cleanup if different criteria are established in the future"-(page 2.)

Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria, Draft Final December 15, 2003–

The future development of a *Remedial Action Work Plan* followed by a *Record of Decision* is a very important step to the process of EPA cleanup. They provide under CERCLA as well as the Public Participation Policy of the EPA the right and obligation for the impacted public to provide the highest level of comment aimed directly at the overall cleanup and planning process. This public comment period is designed to allow the community to engage in the final planning process as opposed to having important decisions made for them by the EPA and its contractors and merely communicated to the impacted public.

It appears under the present *Emergency Response* approach, perhaps by necessity, the EPA is engaged in cleanup work designed to be a permanent solution (Remedial *Action)* according to EPA's own definition.

"For those properties requiring emergency response cleanup, EPA is adopting cleanup procedures and criteria that will help ensure we conduct only one cleanup action at individual properties, even though action levels are lowered or changed in the future. It is obviously inconvenient, impractical, and costly to clean a property twice. This approach is cost effective and protective."

The LATAG is concerned that the serious actions and decisions made under *Emergency Response* allow the EPA much more flexibility with regard to important decision making without fully engaging the impacted community. As we move forward under *Emergency Response,* the people of Libby lose some rights and opportunities to fully engage in the important decision making process (removal of Vermiculite Containing Insulation (VCI) from interior walls, lawns and driveways 1%).

The serious question for the LATAG is whether or not the chance exists that as action levels become more stringent in the future under another risk model, will a second round of cleanup become necessary? Simply stated, will properties cleaned under *Emergency Response* be re-cleaned if the action levels are established at a higher level (given the incomplete nature of the science surrounding the toxicity of Libby Amphibole asbestos)? How can the LATAG become effectively engaged in an on-going dialogue with the agency to ensure a proper and protective cleanup proceeds on a timely schedule?

To proceed on cleanup work that is by definition a "final solution" under *Emergency Response* without the public's proactive participation in the important process of decision making, serves to disenfranchise the community, especially, if the public's most powerful opportunity for participation in important decision making or official public comment comes so far in the future that most of the cleanup has been completed— during the proposed issuance of the *Remedial Action Plan* and *Record of Decision (ROD).*

1.5 Rights and Responsibilities of the Libby Area Technical Assistance Group Inc.

In 2003, the Libby Area Technical Assistance Group, Inc. grew out of the concerns of the Community Advisory Group. The LATAG ultimately applied as a 503-C3 corporation to be chartered in the State of Montana. The CAG allowed the group to act under its charter and conduct site specific business on behalf of the Libby community in

response to the EPA cleanup actions. The CAG remains the sponsoring group and hears reports from LATAG as a matter of public education and information.

In the same year the LATAG applied for and received a Technical Assistance Grant under the EPA and began to perform under the mandate of that grant.

In June of 2004, the LATAG employed Gordon Sullivan / DBA Focal Point Inc., to serve as the organization's Technical Advisor under a three year contract to be extended by due consideration of both parties.

In March of 2004, the LATAG underwent an extensive re-organization and is presently acting as a proactive resource for the Libby community on matters associated with the Libby Asbestos Site and the ongoing cleanup process.

Historically, it can be said that the Libby Area Technical Assistance Group grew out of efforts on behalf of the Community Advisory Group and as a public corporation was awarded a Technical Assistance Grant available under CERCLA- Section 9617. Public participation, CERCLA 117 wherein it is stated:

(a) Proposed Plan

Before adoption of any plan for remedial action to be undertaken by the President, by State, or by any other person, under section 9604, 9606, 9620 or 9622 of this title, the President or State, as appropriate shall take both the following actions:

(1) Publish a notice and brief analysis of the proposed plan and make such plan available to the public.

(2) Provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed findings under section 9621 (d) (4) of this title (relating to cleanup standards). The President or the State shall keep a transcript of the meeting and make such transcript available to the public.
The notice and analysis published under paragraph (1) shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered.

(b) Final Plan

Notice of the final remedial action plan adopted shall be published and the plan shall be made available to the public before commencement of any remedial action. Such final plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the

significant comments, criticisms, and new data submitted in written or oral presentations under subsections (a) of this section.

(c) Explanation of Differences

After adoption of a final remedial action plan-

(1) if any remedial action is taken,

(2) if any enforcement action under section 9606 of this title is taken, or,

(3) if any settlement or consent decree under section of this title or section 9622 of this title is entered into, and if such action, settlement, or decree differs in any significant respects from the final plan, the President or the State shall publish an explanation of the significant differences and the reasons such changes were made.

(d) Publication

For the purpose of this section, publication shall include, at a minimum, publication in a major local newspaper of general circulation. In addition, each item developed, received, published, or made available to the public under this section shall be available for public inspection and copying at or near the facility at issue.

(e) Grants for technical assistance

(1) Authority

Subject to such amounts as are provided in appropriations Acts and in accordance with rules promulgated by the President, the President may make grants available to any group of individuals which may be affected by a release or threatened release at any facility which is listed on the National Priorities List under the National Contingency Plan. Such grants may be used to obtain technical assistance in interpreting information with regard to the nature of the hazard, remedial investigation and feasibility study, record of decision, remedial action, operation and maintenance, or removal action at such facility.

(2) Amount

The amount of any grant under this subsection may not exceed $50,000 for a single grant recipient. The President may waive the $50,000 limitation in any case where such waiver is necessary to carry out the purposes of this section. Each grant recipient shall be required, as a condition of the grant, to contribute at least 20 percent of the total of costs of the technical assistance for which such grant is made. The President may waive the 20 percent contribution requirement if the grant recipient

demonstrates financial need and such waiver is necessary to facilitate public participation in the selection of remedial action at the facility. Not more than one grant may be made under this subsection with respect to a single facility, but the grant may be renewed to facilitate public participation at all stages of remedial action. (Pub.L. 95-510, Title I 117 as added Pub. L. 99-499, Title I 117, Oct. 17 1986, 100 Stat, 1654.)

1.6 Technical Advisor Contract Specifications

Under tasks outlined within the Technical Advisor's contract, Gordon Sullivan has prepared the following report for the consideration of the incumbent LATAG Board.

In the preparation of this report, the Technical Advisor reviewed and studied the following list of documents in preparation for his report to the board.

Primary Documents

- Final Draft Response Action Work Plan (November 2003)
- Final Draft Design Analysis Report
- Final Draft Pre-Design Inspection Activities Plan
- Libby Asbestos Site Residential/Commercial Cleanup Action and Clearance Criteria, Technical Memorandum (December 2003)
- Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum (December 2003)

Support Documents

- Phase One Sampling Plan
- Phase Two Sampling and Quality Assurance Plan
- CDM , Libby Asbestos Site, Operable Unit Four, Final Sampling and Analysis Plan Remedial Investigation for the Libby Asbestos Site, May 2003
- CDM, Final Sampling and Analysis Plan Remedial Investigation Containment Screening Study, May 2003
- ATSDR Public Health Assessment for Libby Asbestos Site, December 2002.

- ATSDR, Year 2000, Medical Testing of Individuals Potentially Exposed to Asbestosform Minerals Associated with Vermiculite in Libby, Montana, August 2001
- U.S. Department of Health and Human Services Toxicological Profile for Asbestos
- Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA).
- Superfund Amendments and Restoration Act (SARA) 1986.
- ATSDR Health Consultation, Mortality in Libby, Montana (1979-1998) August 2002.
- EPA, Exposure Assessment for Asbestos-Contaminated Vermiculite, 1985 prepared by Exposure Evaluation Division Office of Toxic Substances, EPA contract # 68-01-6271 and 68-02-3968
- Site Specific Health and Safety Plans, Volpe, CDM, Salute- MARCOR, and Environmental Restoration.
- Montana State Asbestos Regulations.
  Environmental Protection Agency Strategic Plan 2003 to 2006
- Environmental Protection Agency *Superfund Risk Assessment and How You Can Help*
- Technical Support Document for a Protocol to Assess Asbestos-Related Risk. Volumes One and Two September 3, 2001.
- Report on the Peer Consultation Workshop to Discuss a Proposed Protocol to Assess Asbestos-Related Risk
- EPA Memorandum, Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health, Christopher Weis, Senior Toxicologist
- Hazardous Substance Control Act.
- OHSA Regulations Relating to Asbestos

- Design Criteria Decisions, Jim Christiansen 2004
- Technical Memo 4, Summary and Evaluation of Interim Quartz Test Material Sample Analysis By SEM and IR.
- Syracuse Research Corporation Memorandum to Libby Analytical Team on Results for ISTM2 Samples
- Quality Assurance Project Plan for Libby, Montana- Performance Evaluation Study for Analytical Methods for Asbestos in Soil
- Non Cancer Effects in Rats from Inhabitation Exposure to Libby Amphibole, Study and Design Rational, January 2003
- Asbestos Exposure Assessment for Vermiculite Attic Insulation, by Versar, Inc. June 2002.
- Public Involvement Policy of the U.S. Environmental Protection Agency, May 2003.

Supportive Activity on behalf of LATAG

In July 2004, during the summer cleanup season, the LATAG operated a pilot program entitled *Property Owner Advocacy Program* and dispatched the Technical Advisor to a number of private cleanup sites to act as a technical resource for the impacted property owners. The primary purpose of this activity was to gain first hand knowledge of the process of cleanup, the management structure employed during cleanup, the key decision making processes and the potential problems faced by property owners.

This program greatly added to the understanding of both LATAG and the Technical Advisor and included the cleanup of the TA's personal residence as one of the project's first large scale remodels.

1.7 T A Contract Goals and Objectives

- Define for LATAG what stage the Libby Project is in under EPA response.
- Fully define the LATAG rights under the EPA Policy of Public Participation.
- Provide specific information to the LATAG as to the difference between *Emergency Response* and *Remedial Action* and how the two different actions relate to the present stage of the cleanup process at the Libby site.

- Make specific comments as to important matters and protocol outlined in the EPA's; *Final Draft Response Action Work Plan, Final Draft Pre-Design Inspection Activities Work Plan Final Draft Design Analysis Report, Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum and Libby Asbestos Site Residential/Commercial Cleanup Action and Clearance Criteria, Technical Memorandum.*

- Inform the LATAG as to the need for future comments and actions relating to the long and short term planning processes of the EPA and Volpe Center, for the Libby Asbestos Site.

- Define LATAG's rights and responsibilities under CERCLA.

- Outline the decision making structure employed at the Libby site by EPA, Volpe Center and CDM as each relates to important standards set for site specific cleanup.

- Site the important relationship that exists between the historic exposure to Libby Amphibole asbestos and its present impact on community health and safety as well as its importance as a primary tool for site specific decision making.

- Draw into focus the present state of science as it relates to the differences in toxicity between chrysotile and Libby amphibole asbestos and demonstrate how the standards set under the Integrated Risk Information System (IRIS Model) relate to the standards necessary at the Libby Asbestos Site.

- Demonstrate the present need for the new and more comprehensive EPA Risk Assessment Model (Berman Crump) for the Libby Asbestos Site.

On behalf of the LATAG and the Libby community, present comments relating to: *Final Draft Response Action Work Plan and Final Draft Design Analysis Report, Final Draft Pre-Inspection Activities Plan* and in part the *Libby Asbestos Site Residential/ Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum.*

1.8 Distribution Protocol- Initial

As a deliverable under the TA contract with the LATAG, the distribution of the enclosed report is excluded to one copy for each LATAG Board member for their review and consideration. Accompanied with that delivery a letter expressing the confidential nature of the material will be included.

List of LATAG Board members to receive copies:

Gayla Benefield, Chair

LeRoy Thom, Vice Chair

JoElyn Bruce, Secretary

Mike Nobel, Treasurer

Les Skramstead, Member

Eileen Carney, Member

Clinton Maynard, Member

Lee Clark, Member

Abe Troyer, Member

Gary Morton, Member

Jan Meadows, Member

Section Two

Responsibilities of Associated Groups

Our Future as a Community Depends on Our Hard Work Today

Section Two Roles and Responsibilities

2.1 Role and Responsibilities of the Environmental Protection Agency

EPA is the lead agency for the Libby, Montana response action. The agency has overall responsibility for implementing the response action activities. It has put in place an Interagency Agreement with the US Department of Transportation Environmental Engineering Division Volpe Center for managing the response activities at the site and for providing contractors for design and construction for the removal of contaminated soils, VCI and contaminated interior dust. EPA responsibilities follow:

- Provide overall direction for the response activities.
- Maintain the Interagency Agreement (IAG) with the Volpe Center.
- Provide funding to the Volpe Center for implementing the response action activities.
- Provide funding for the EPA Emergency Rapid Response Services (ERRS) contractor or other contractors, for their participation.
- Obtain access agreements for all activities to be conducted on government and private property.
- Approve plans prepared for implementing the work.

Under an interagency agreement, the Environmental Protection Agency employed the United States Department of Transportation Volpe Center Environmental Engineering Division located in Cambridge, Massachusetts.

2.2 Interagency Agreement between E PA and the U.S. Department of Transportation- Volpe Center

The Volpe Center will provide environmental engineering and remediation services and support to EPA for the contaminated soil removal, VCI removal, and subsequent interior cleaning in Libby, Montana. Volpe Center responsibilities follow:

- Procure cleanup/construction contractors.
- Procure other contractors as needed, including for providing common fill, topsoil, landscaping, laboratory analysis, surveying and security.
- Provide contracting for CDM's planning, design, and cleanup oversight efforts.
- Provide administration and closeout of contracts.
- Represent EPA at the site when EPA personnel are not on site.
- Assist EPA in planning their cleanup activities.
- Assist EPA with the acquisition of a permanent disposal facility for contaminated soil, (mine) and VCI (repository).
- Acquire project background data and regulatory information as needed.
- Review and approve the comprehensive site health and safety plan (CDM 2003) and the cleanup/construction contractor's site specific health and safety plan.
- Review work plan addenda and design documents provided by CDM.
- Assist in pre-removal meetings with the resident, CDM, and the cleanup/construction contractor to discuss cleanup activities.
- Management of daily cost tracking system (Removal Contract Management System-RCMS) for the Volpe cleanup/construction contractors.
- Population (including quality control checks) and overall management of the project database (Libby 2).
- Progress tracking.

- Site security.
- Community relations support during construction activities.
- Administration record support

Under contract to the Environmental Protection Agency the Volpe Center in turn contracted with CDM of Cambridge, Massachusetts.

2.3 Role and Responsibilities of CDM

Under contract with the Volpe Center, CDM will provide architect/engineer support for emergency VCI and contaminated soil removal and subsequent interior cleaning in Libby, Montana. CDM responsibilities are as follows:

- Identify residential and commercial properties that require remedial activities and provide a removal schedule.
- Prepare work plan addenda or designs for properties determined to have VCI or contaminated soils.
- Procure surveying services for properties requiring soil excavation.
- Provide community involvement coordinator (CIC) support (i.e., inform and document all planned cleanup activities with property owner, notify neighbors of cleanup activities, produce removal and restoration forms).
- Record digital photos of properties before, during and after cleanup activities.
- Provide construction management for cleanups.
- Monitor the cleanup/construction contractor to ensure compliance with approved plans, drawings, and specifications.
- Provide technical oversight support throughout the duration of the cleanup and restoration activity.
- Provide health and safety coordinator(s) for all contractors working at the site.

- Inspect containments and personal decontamination stations for proper setup and operation.

- Collect confirmatory soil samples.

- Procure laboratory services for analysis of removal confirmation samples and other removal-related samples (i.e. topsoil) as requested.

- Provide laboratory coordinator to ensure reporting consistency between subcontracted laboratories.

- Provide sample coordinator to generate electronic chain-of-custody forms and coordinate analysis of samples.

- Populate (including quality control checks) the ELASTIC database and provide daily upload files to Volpe Center.

- Provide copies of paperwork, (i.e., field sample data sheets, logbooks, removal checklists, etc.) to Volpe Center, including any revised forms.

- Maintain residential file folders that include sample data, CIC information, and copies of all applicable logbook pages, digital photographs, and EPA correspondence.

- Collect perimeter air samples throughout duration of soil removal activities.

- Collect personal air samples (8 hour Time Weighted Average (TWA) and excursion in accordance with Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1926,1101) as required based on historical personal air sampling data.

- Collect final clearance air samples inside the project work area (attic or living space) for VCI removal and interior cleanings.

- Conduct final inspections to determine completeness of the response action (cleanup) - VCI/Dust Removals.

As a mandate under their contract the CDM Company contracts to Removal Contractors.

2.4 Role and Responsibilities of Cleanup/Construction Contractors

Contaminated soil, VCI removal and interior cleaning (i.e., dust removal) will be performed based upon EPA or Volpe Center task orders and all approved plans. In summary, the following activities will be performed by the cleanup/construction contractors.

- Attend pre-cleanup activity walk through at the properties.
- Prepare site-specific health and safety plans.
- Identify and acquire necessary permits.
- Set up and maintain field office/staging area.
- Acquire utility clearance through the Montana U-Dig (800-551-8344) and or private local firms.
- Excavate asbestos contaminated soils to the depth and a real extent indicated in the work plan addenda or design documents.
- Transport and dispose of excavated soils to approved locations.
- Restore properties to their pre-existing condition by backfilling; replacing driveways, sidewalks, patios, and decks; and other necessary repairs. Final grade will be restored to provide proper drainage.
- Conduct health and safety monitoring.
- Implement and monitor engineering controls from construction impact mitigation (i.e., dust control).
- Coordinate with Volpe and CDM for confirmatory soil sampling and subsequent laboratory analysis.
- Prepare attic for VCI removal by constructing necessary containment and personal decontamination stations.
- Remove VCI in accordance with work plan addenda or design documents.

- Dispose of VCI and construction debris associated with VCI at the EPA approved landfill or other disposal area.

- Perform cost tracking as required by contractor.

- Supervise subcontractors.

Source: Final Draft Response Action Work Plan, Section Two, CDM– November 2003

2.5 Role of Libby Area Technical Assistance Group, Inc.

- Serve as an oversight group for the Libby community for all EPA, Volpe, CDM and Removal Contractor activities associated with the Libby Asbestos Site.

- Through reports and summaries prepared by their contracted Technical Advisor, the group should become familiar with important documents produced by or for EPA and Volpe Center and be prepared to make meaningful comments on the decisions and work outlined in those documents.

- Engage to the fullest extent possible in decision making on behalf of EPA and Volpe Center pursuant to Section 9617 CERCLA 117. in order to enhance public participation in the process of response action.

- Through its knowledge of the clean up process, educate the public as to the merits of the activity and serve as a source of important information for the general public.

- Respond to published notices, proposed work plans and other important milestones as the cleanup process continues into the future.

- Obtain necessary technical assistance for interpretation of information in regard to the hazard, remedial investigation, feasibility study, record of decision, remedial design, selection and construction of remedial action, operation and maintenance, or removal action at the Libby Asbestos site.

- Under the Technical Assistance Grant, use the allocated funds to

enhance public participation, public education and public involvement to the highest level possible as it relates to the Libby Asbestos Site.

- Engage in sound fiduciary functions with regard to the use, accounting and disposal of funds awarded under the Technical Assistance Grant.

- Participate in local educational and informational meetings relating to the hazards associated with asbestos.

- Forge partnerships with other organizations either local, regional or national who are engaged in the process of cleanup, health assessment, risk assessment or operations and maintenance of associated hazardous material and substances.

- Respond to media requests relating to the participation of LATAG in the cleanup, health assessment or risk assessment at the Libby Asbestos Site.

- Serve as a local and regional educational resource to the process of cleanup, removal, remediation, or operations and maintenance as a EPA Superfund Site.

- Through study become as knowledgeable as possible about the EPA process of site specific "Risk Assessment" and prepare to communicate those findings to the public at large.

- Engage the use of scientists, physicians, engineers, legal professionals or other necessary support personnel to allow the LATAG to become as knowledgeable as possible about the activities of cleanup, risk assessment and health assessment.

- Prepare monthly reports relating to LATAG activities to the Community Advisory Group.

- Prepare special reports and presentations as needed on LATAG activities for the public at large or groups within that public.

- Prepare to make public comment on behalf of the community regarding the published work plans, operating plans and other documents produced by or for Volpe Center or the EPA.

Section Three

LATAG Analysis and Response to EPA Final Draft Documents

Neighbors, Relatives and Friends

Section Three LATAG Analysis and Response to EPA Final Draft Documents

3.1 Report Purpose

The following section serves two distinct functions:

1. Serve as an information and education tool for the LATAG Board of Directors and the community of Libby, Montana.

2. Serve as a "draft" response for LATAG general comments in regard to the following EPA documents.

   The document under review in the following sections of this report include; ***Final Draft Response Action Work Plan, Final Draft Design Analysis Report, Final Draft Pre-Design Inspection Activities Work Plan, and in part the Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum.***

3.2 Present Phase of EPA Response Action

Pursuant to the dynamic nature of the Libby Asbestos Site project, it is recognized that the general cleanup process has not followed the strict guidelines for EPA response actions as identified under CERCLA. It is important for readers to fully understand the exact level of "EPA response action" the site is operating under at any given time in order to fully participate in the comment and decision making process.

The extremely tragic and unusual situation caused by the activities of W.R. Grace in the Libby community have lead to a level of contamination and health impact which may be unprecedented in the experience of the Environmental Protection Superfund Program. Given the unusual nature of the circumstances at the Libby Asbestos Site there have been, and will continue to be, a number of EPA response actions occurring simultaneously and therefore, the role of public comment remains dynamic. It is the objective of LATAG and the community in general to take full advantage of the ability to present meaningful comments in order to facilitate this objective effectively. The participants must understand there are different rights and procedures under the various levels of EPA response actions.

At present, thousands of exposed victims have been clearly identified through ATSDR screening, thousands of homes and commercial structures have been identified in need of cleanup and thousands of cubic yards of contaminated LA and VCI material remain directly accessible to the impacted public. Due to the nature and seriousness of the environmental and health problems associated with the Libby Asbestos Site, the EPA has moved to immediately protect the public under *Emergency Response* and continues to do so, while working to fully define the extent of the problem under *Remedial Investigation* and to some degree *Remedial Response*. The community's right to comment in a formal sense is much more pronounced once the agency completes its work under *Emergency Response* and begins to develop site specific guidance documents known as the *Remedial Action Work Plan* and *Record Of Decision*. At the time these documents become a reality, final standards and work plans for the project are set and the community has the right to comment. At this crucial juncture the role of public comment and participation is of the utmost importance and needs to be well organized in order to be fully effective. These rights, responsibilities and privileges are pointed out clearly in CERCLA.

The present round of comment covered under this report is to some degree an exercise of another process of public participation allowed under the EPA's *Administrative Public Participation Policy* wherein the rights of an impacted public to fully participate in the important agency's decision making process is outlined and guaranteed. That administrative policy is inclusive in nature and presents a tool by which the LATAG and the Libby community can engage to a great degree in the presently active decision making process.

The purpose of this report is to make our views known to the EPA and to formulate a process of open discussion relating to the far reaching decisions made within our community on an ongoing basis. It is very important for the reader to understand that within *Emergency Response*, the agency operates under a mandate to protect the public as best it can within the consideration of a full emergency. That might mean the agency removes bulk or point sources of contaminated material considered to be the most dangerous and leaves in place other materials that are considered less dangerous due to infrequent access, ability to be contained or isolation, etc.

Under *Remedial Response* the agency's mandate shifts to long term protection and begins to look at decisions that extend much deeper into matters such as large scale cleanup, risk standards, risk assessment, exposure levels and the process of putting into place long term strategic plans that impact final cleanup. The best way to view the difference between these two very important processes is to compare it to an emergency created by a fire in the home. The first immediate step should be to protect human health and safety by isolating people from immediate danger and getting the actual emergency under control. That step can be considered *Emergency Response*. Once the emergency is under control, work is done to further control and distinguish the fire, which can be considered *Remedial Action*.

In the case of the Libby Asbestos Site, full public participation under *Emergency Response* is important because while we are addressing the emergency, we are subject to decisions that can be considered long term solutions (cleanup of private properties, lawns, gardens, etc.) which might usually be a matter for *Remedial Action* under normal circumstances.

Today, the EPA ongoing response actions include:

> *Emergency Response*, relating to the cleanup of gross material and VCI located at various properties throughout Libby including residential and commercial sites, lots and larger parcels of undeveloped land.
>
> *Remedial Action,* relates more directly to the cleanup of gross material and VCI located at various properties throughout Libby, including both homes and businesses.
>
> *Remedial Investigation/Feasibility Study* continues to fully define the exact extent of the contamination within Libby. This action should conclude in the fall of 2004. This phase is used by the agency to locate and identify properties in need of cleanup.

In its previous work the LATAG recognized the dynamic process underway and has attempted to gage its response to cleanup and investigation activities pursuant to the actual level of response on behalf of the EPA and its management contractor, Volpe Center. However, it is sometimes difficult to determine what response action covers the process of cleanup taking place at specific properties. Therefore, in the preparation of its comments, questions and concerns, the LATAG assumes the residential and commercial properties with which the group expresses the most concern are being cleaned under *Remedial Action* because most of the planning documents outline various levels of permanence to the actions.

The LATAG further recognizes the presently proposed documents as prepared by CDM for the Volpe Center and the EPA are entitled *Response Action Work Plans* as opposed to *Remedial Action or Emergency Action Work Plans*, leading the LATAG to assume the proposed plans are meant to guide the activities under both *Emergency* Response and *Remedial Action.*

In the pursuit of both acceptable cleanup standards and a comprehensive risk assessment relating specifically to the Libby Asbestos Site, the LATAG has accepted its role of partnership with the EPA and the Volpe Center in order to further the agreed upon set of directives as assigned under the current planning documents.

The LATAG is concerned about a number of operating and risk assumptions outlined in the planning documents and wishes to present these concerns to the agencies in order to fully participate in the important decision making activities that will impact their community and its health well into the future. In the process of making its concerns known to the EPA and Volpe Center, the LATAG has searched the record for a number of historic comments, commitments, and established positions expressed in the past by the EPA in order to support the dialogue outlined in the following section of this report.

Throughout the past cleanup activity (2003 cleanup season) managed by Volpe Center and EPA, the LATAG feels many important decisions have been made without due consideration on behalf of the impacted community and as a result both the anticipated level of cleanup and the perceived health risks associated with exposure to LA has experienced a steady decline in the eyes of the responding federal agencies.

The importance of proactive public participation on matters relating to removal, remediation of hazardous materials, and health risks associated with those materials cannot be taken lightly by the EPA or Volpe Center and should be foremost on their minds when decisions are made that will impact life within the community. Proactive public participation is especially important at the Libby Asbestos Site because of the long list of exposed victims still living within the site, as well as the fact that most of the proposed cleanup activities at the site are scheduled to take place on private property or inside the homes and businesses of community members who should have a strong voice regarding both cleanup activities and standards. It should be a major consideration for the Volpe Center and the EPA as they proceed with cleanup activities that their actions heavily impact the two most important possessions owned by the people of Libby— their health and their homes.

Both managing agencies should take into consideration as the LATAG speaks out on behalf of the Libby community, they are not simply dealing with another contaminated mine or factory site, instead, their concerns relate to actions that will permanently impact the lives and future of thousands of residents and property owners who have worked hard during their lives to be able to enjoy the very homes and businesses presently under consideration for cleanup. The agencies should never lose sight of a second important fact that hundreds of friends, family members and associates of Libby residents have already died as a direct result of the tragedy now being addressed by the federal government. The people of Libby are forced by circumstance to take full ownership of the future and present health risks associated with exposure to amphibole asbestos and in as much are forced to rely in the future on the quality of cleanup presently underway in their community.

The community is also concerned with the health and safety of its members who presently work on cleanup sites and are poorly protected under Occupational Health and Safety Administration (OSHA) guidelines. Our concern is these guidelines are not

designed to be protective when it comes to working with amphibole asbestos, especially Libby Amphibole asbestos. For years, managers of W.R. Grace operating under OSHA and Mine Safety and Health Administration (MSHA) standards informed their employees that exposure to dust containing amphibole asbestos was not injurious to human health. Tragically, they were wrong and thousands of Libby residents now face the adverse health consequences of this misinformation received from W.R. Grace. Today, the Volpe Center and EPA seem to have taken a similar position to that of W.R. Grace, by informing workers and residents that infrequent exposure to the same amphibole asbestos containing material is not believed to be injurious to human health. The agencies make this representation without conclusive scientific or medical research to support their assumption. The absence of a conclusive and fiber specific "Risk Assessment" from which to guide the present EPA and Volpe Center decisions relating to both worker safety and cleanup quality greatly troubles the members of LATAG and the Libby Community in general.

The haunting reality that many members of the Libby population presently suffer the terminal effects of mesothelioma, lung cancer and asbestosis, as a direct result of low dose and infrequent exposure to Libby Amphibole Asbestos supports the LATAG's concerns. The same concerns are further exacerbated by the large amount of LA material scheduled to remain in place in Libby homes and businesses, the insufficiency of OSHA regulations with regard to worker safety, the inadequacy of worker safety plans enforced by removal contractors and the mistaken assumption made within the proposed planning documents that LA contaminated material measuring less than 1% by weight is safe or acceptable for a community already impacted to continue to live in its proximity.

With regard to LATAG concerns about the absence of a fiber specific "risk assessment" the group recognizes the EPA has made substantial steps in the furtherance of "risk assessment" with the partial inclusion of Berman and Crump modeling. However, these advancements do not seem to extend very far into the operating assumptions and procedures outlined in; *Final Draft Response Action Work Plan, Final Draft Pre-Designed Inspection Activities Work Plan, or the Final Draft Design Analysis Report.*

Many of the operating assumptions outlined in the proposed EPA plans are based on the Occupational Safety and Health Administrations allowable occupational levels for asbestos which are derived under the IRIS Model for other types of asbestos fibers.

> EPA comment: ***The concentrations of fibers in air generated by distribution of source materials may exceed Occupational Safety and Health Administration (OSHA) standards for acceptable occupational exposures, and estimated excess cancer risks can exceed EPA's typical risk range by an order of magnitude or more."***

It concerns LATAG that included as the very foundation of the certain standards outlined in the proposed EPA work plans is reflected a toxicity more akin to IRIS risk model than the more recent advancements made by experts employed within or by the agency. These are advancements that assume LA to be far more disease potent by at least one order of magnitude or more. The planners seem to perform without regard to the significant advancements made in risk assessment modeling expressed to some degree in *Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria –Technical Memorandum- Appendix (Screening Level Estimates of Exposure and Risk From Libby Amphibole in Air, Dust and Soil).*

Respectfully, the following comments, concerns and observations are offered for consideration and are accompanied by several recommended actions made on behalf of the members of the LATAG Board.

3.3 Lack of Acceptable Standards Relating to Community Risk Based on Existing Medical Cases

A review of the overwhelming human health impacts clearly demonstrated by the ATSDR screening studies and more importantly, current case files maintained by both Dr. Brad Black of the Libby based CARD Clinic and Dr. Alan Whitehouse in Spokane, clearly demonstrate the significant health hazards associated with both low dose, infrequent exposure and high dose occupational exposures to Libby Amphibole asbestos (LA) historic to the Libby Asbestos Site. (A complete assessment will be offered in the LATAG's formal response to *Appendix, Screening Level Estimates of Exposure and Risk From Libby Amphibole in Air, Dust, and Soil* to be complete one month prior to the Denver risk assessment meeting).

There is no greater evidence available to stress the adverse health effects brought on by infrequent exposure or low level exposure to LA than the active medical records or death certificates of hundreds of Libby victims. The LATAG feels this powerful evidence should be relied upon to form the foundation for planners to establish cleanup and removal standards for the Libby Asbestos Site. No stronger information should come into play as we guide the removal and clean-up protocols at the Libby Asbestos Site.

The presence of such a powerful body of evidence relating to specific health risk should be relied upon as a paramount planning tool for both EPA and Volpe Center and consequently should present a comparative analysis with regard to many removal or containment assumptions outlined in the; *Final Draft Response Action Work Plan, Final Draft Pre-Design Inspection Activities Work Plan, Final Draft Design Analysis Report.*

Unfortunately, the LATAG senses the contrary to be true, when it comes to many cleanup standards outlined in the proposed working documents (1% asbestos Action Level, VCI retention in walls and ceilings, long range containment of VCI, long range maintenance of contaminated soils, VCI retention in crawl spaces etc.) Many operating assumptions included in the proposed plans call for long term maintenance of VCI and contaminated soils on behalf of uninformed property owners as opposed to removal. These assumptions seem to be based on the premise that certain areas are seldom accessed, difficult to access, or offer a possibility of containment and therefore exposure should be considered "infrequent." The fact is, neither the EPA, Volpe Center or medical science in general have as of yet defined to any conclusive degree an acceptable allowable dose for vermiculite contaminated material. However, the long list of medical records on file firmly support the adverse opinion that low level or infrequent exposures, similar to those determined safe by the EPA and Volpe Center, have in fact caused serious and even terminal health effects in the immediate past. For the federal government to plan a hazardous material cleanup, which by design results in the abandonment of large amounts of hazardous material within the boundaries of an already highly impacted community is neither safe or protective.

The LATAG feels little consideration has been given to existing medical case records as a formative planning tool for the Libby cleanup. It is of further concern; the temporary containment protocols conducted on residential and commercial structures under *Emergency Response* during the 2003 cleanup season has not taken into consideration the adverse health impacts caused by low dose or short duration exposures. The bases for this concern rest on the overriding operating protocols centered on "management in place" as outlined repeatedly in the proposed planning documents. If these protocols were based on scientifically proven theory or even historic modeling the LATAG would rest easier. However, in light of the recorded health effects associated with LA exposures at all levels, it is hard to conceive the successful development of a safe and fully functioning management. The LATAG believes instead a methodology can be attained without dangerous flaws.

At the very least, the agency should employ the most stringent safeguards possible in its planning process. Existing medical information is one of two ways EPA can determine the prevailing health risks associated with a given hazardous substance.

As risk assessment unfolds for the Libby Asbestos Site project, the community, through the work of LATAG and in conjunction with Dr. Whitehouse and Dr. Black at the CARD will present their interpretation of the existing medical records. The group intends to draw important conclusions around potential future exposure brought on by containment failure, the disturbance of unremediated land parcels and the existence of undiscovered hazardous material left in the Libby community. The group intends to show that due to the indiscriminate use of VCI, LA and mine tailings within the community over the years, the future health hazards are very different from other sites

across the nation and as such deserve special attention even under a new risk model. Because Libby was the mine site, and so many residents relied on vermiculite containing material for any number of uses it certainly presents a risk characteristic separate from other sites.

The EPA's work to finally conceive a fiber specific risk assessment in light of Berman-Crump and the advancement of a more comprehensive "risk model" is commendable and with any luck, will proceed with diligence as the cleanup work in Libby continues into its second residential season. The LATAG fully realizes the compromising position the EPA faces as it employs risk theories still under investigation, development and peer review. However, the group would like to see a continuous upgrade of protective standards as the findings of science parallel the cleanup work in Libby. The big fear of many LATAG members is that we are cleaning up structures today under a somewhat liberal interpretation of the IRIS model which sets standards that might not prove sufficient under a new risk model. If this is the case, the group feels one out of two scenarios could happen. First, structures cleaned under the old model will be determined complete which allows for material to be left in place. This material may not meet new standards as it relates to health risk. Secondly, material left in place under IRIS modeling will need to be removed under some new risk model therefore, extending the length and overall cost of the cleanup process. The LATAG understands the present wide latitude and liberal interpretation of IRIS modeling by EPA managers in their efforts to not return and re-clean homes and businesses. The LATAG fully recognizes the unique dilemma the agency faces as science moves to catch up with the ongoing cleanup process.

The primary objective of the LATAG is to ensure the cleanup process is as comprehensive and protective as possible. The group will push to have temporarily contained material and material left in place below 1% permanently "removed" in the future, should that material be deemed unsafe under a more amphibole sensitive risk model. As the project moves closer to a "Remedial Action" response level and in turn promotes the authorship of a "Record of Decision" the LATAG will take the strong position that the cleanup under IRIS has been performed incompletely in the past and should be redone, regardless of the adverse economic considerations the community may face. The group's mandate is clear and will remain consistent with its support of a "fully protective and comprehensive cleanup." To impose this mandate, LATAG will employ the historic medical records presently on file.

This dilemma between the present position of the EPA regarding the employment of new risk theories and the LATAG's fully protective mandate should be recognized now as opposed to facing it in the future. If addressed from a consideration of cost effective management only, it seems prudent for the EPA and Volpe Center to manage the present cleanup in a fully protective manner, completely recognizing the provability of risk assessment changes in the not too distant future, as opposed to facing the possibility of redoing a significant number of structures, lawns and driveways in the

future. To engage in a process of risk assessment dialogue at this point in time, as EPA managers have suggested, reflects a very progressive style of management and may save significant costs and dispute in the future. Both the LATAG and the community look forward to this positive exchange in the form of meetings and workshops and applaud the EPA managers for proposing the program.

Further, the affirmation of existing cases of mesothelioma within the Libby population coupled with the inability of the scientific, medical community or the EPA toxicologists to accurately determine a "reasonable minimum or maximum exposure" or even quantify a dose above which health effects will not be expected to occur, seems unreasonable. It would be far more acceptable for the EPA to rely on its well publicized commitment to provide adequate safeguards to the impacted public when addressing cleanup protocols where undefined hazardous materials like LA become the target. This dilemma is best stated in the words of the EPA *"Scientists still don't know what dose of a chemical will cause cancer so, as the dose increases the risk of cancer increases proportionately."* It is this assumption that leads to the EPA *"Cancer Slope Factor"*

"EPA is continually studying the biological response to chemicals in the environment, that is, how different chemicals actually cause harmful effects on our body. As we learn more, we may change our approach for evaluating the toxicity of carcinogens and non carcinogens. In the meantime, to make sure we're protecting people, EPA will continue to add margins of safety in its Risk Assessments."

"We know there are uncertainties in the Risk Assessment Process. Because our mission is to protect public health and environment we will, where those uncertainties exist, use assumptions that are protective of the people who might come in contact with a site. For instance, when we aren't sure on the toxic effects on people EPA adds a margin of safety so we don't underestimate the harm a chemical can do to a person."

(Quotes taken from EPA Superfund Risk Assessment and how you can help)

Clearly there are only two reliable ways for the EPA to determine any level of risk that might exist at a specific site. They can rely on comprehensive health studies or employ its well established risk assessment process. A significant health study can be derived from the case histories presently on file and should be employed as a planning tool for assessing risk, cleanup criteria or cleanup action levels to ensure substantial margins of safety are built into the process.

For the EPA to continue to rely on a non representative risk model as a baseline for any level of response action or clearance criteria at the Libby Asbestos Site is to overlook necessary margins of safety. This will lead to the mistaken impression among cleanup staff, workforce and impacted property owners that infrequent exposure and

low doses of Libby Amphibole asbestos is completely safe and acceptable when in reality it is not.

It begins to appear that the Volpe Center and the EPA are not overly concerned with small amounts of VCI remaining in structures considered clean under today's standards (*Living With Vermiculate).* Tragically, this well publicized operating assumption is neither supported by medical science or the undisputable records of exposed victims.

The 178 reported case of mesothelioma in Montana that originated as a result of exposures to various levels of LA cannot be overlooked and should be a key factor in the proposal of any standards relating to the cleanup of Libby Amphibole asbestos. This is simply not the case.

LATAG Recommended Actions

The *Final Draft Response Action Work Plan* and other supporting documents should be revised to include a scientifically supportable "Minimum Dose Standard" in full concert with the presence of recorded medical information.

In the implementation of its planning efforts, the EPA should recognize its commitment to the public it serves to function around plans that are fully protective by imposing the most conservative standards possible with regard to property cleanup.

The agency should reconsider its present position on the potential health impacts of low dose and infrequent exposure to LA and rely on the historic medical records to establish a baseline for its future planning processes.

EPA should not base any clean-up assumptions as proposed in the *Final Draft Response Action Work Plan* on the IRIS Risk Model.

In planning efforts relating to the Libby Asbestos Site, the EPA or Volpe Center should not rely on present Occupational Safety and Health Administration's (OSHA) allowable exposure threshold as a guide for cleanup worker safety.

EPA should completely revise its sampling and analytical procedures to adequately reflect the toxicity of Libby Amphibole asbestos as opposed to relying on baseline standards set under IRIS. If the EPA is willing to accept the operating assumption that Libby Amphibole asbestos is at least one order of magnitude more disease potent than the material used to set the OSHA standards then that conservative

assumption should be fully reflected in all guidelines used in any future sampling, analytical or clean-up work plans.

The *Final Draft Response Action Work Plan* and the standard operating procedures identified within the plan should be revised to include the "most" protective guidelines possible given the undefined nature of LA.

3.4 Employee Safety Concerns

A. Occupational Safety and Health Standards

Occupational Safety and Health Administration's allowable limits for workers employed within an asbestos contaminated environment are derived by using chrysotile asbestos as base substance. Both the EPA and notable members of the scientific community consider chrysotile far less dangerous and less toxic than Libby Amphibole asbestos. *Final Draft Design Analysis Report, Section Four* under the heading *Investigative History,* addresses this huge difference.

EPA Statements:

"The concentrations of fibers in air generated by disturbance of source materials may exceed OSHA standards for acceptable occupational exposures, and estimated risks can exceed EPA's typical risk range by an order of magnitude or more."

"Disturbance of asbestos-contaminated source materials can result in exposure to respirable asbestos fibers in air."

"Asbestos fibers of the type that occur in vermiculite ore from the mine site are hazardous to humans when inhaled."

EPA's *Phase Two Sampling and Quality Assurance Project Plan (EPA 2001)* completely support the facts outlined above and provide a solid foundation for more protective guidelines than those presently employed at the Libby Asbestos Site for workers coming in direct or indirect contact with LA or VCI.

The *Final Draft Response Action Work Plan* and *Final Draft Design Analysis Report* effectively disregard the protective assumption outlined in the findings and on-site experiments performed in the *Phase Two Sampling and Quality Assurance Project Plan* and therefore put workers at risk. Further support for more protective Health and Safety Plans come from past "Risk Memorandums" prepared by EPA Toxicologists

citing the extremely high risks associated with even low grade exposure to Libby Amphibole asbestos.

"The concentrations of fibers in air generated by disturbance of source materials may exceed OSHA standards for acceptable occupational exposure, and estimated cancer risks can exceed EPA's typical risk range (IE-04 to 1E-06) by an order of magnitude or more. There are several factors which suggest these risk estimates may be too low and that actual risks are even greater."

Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health, Christopher P. Weis Ph.D., DABT– Senior Toxicologist/Science Support Coordinator, Libby Asbestos Site.

Despite pre-existing warnings relating to human risk, the *Final Draft Response Action Work Plan* returns to the theory that the OSHA Standards are reliable when it comes to worker protection. However, in their own estimation of the human health risks associated with Libby Amphibole asbestos, CDM, Volpe Center and the EPA disregard the information and operate within their planning documents as though the present OSHA standards are fully protective for workers. EPA knows full well the health hazards associated with the material in question at the Libby site. They admit in their written material the risks far exceed their own accepted risk range for cancer by an order of magnitude or more. In recognition of this knowledge the approved Health and Safety Plans employed at the Libby Site are completely unacceptable. It is the Volpe Center's responsibility to approve the Health and Safety Plans used by their contractors and it is CDM's responsibility to oversee the actual implementation of those plans. In the face of reliable information drawing serious attention to the oblivious inadequacy of the Health and Safety Plans (HASP), it is unthinkable that neither of these oversight agencies have reacted on the side of appropriate worker safety.

The EPA's responsibility to communities in which they operate with regard to risk to human health and safety is to ensure a significant margin of safety when suspicions arise regarding undefined risks or when working with substances and chemicals of an undefined toxic nature. There is no "lowest level" of exposure to Libby Amphibole asbestos that is supported by EPA or the scientific community and therefore, LA is basically undefined. Therefore, the actual toxicity of LA is unknown and should be treated accordingly under the HASP.

The present Health and Safety Plans as submitted by the removal contractors all rely on the present OSHA allowable occupational levels to set the foundation for their responsibility to provide adequate protection for their workers. The HASP has been approved by Volpe Center, CDM and the EPA with disregard to risk to human health.

EPA site managers have informed the removal contractors and their employees at meetings held in April that the present OSHA allowable limits are not designed to be protective.

Under OSHA, "un-defined work environments" where the actual risk to human health and safety is either in serious question or is determined to be "unknown" the on-site standards should be guided by the **"General Duty Clause"** which is designed to provide reliable protection to workers engaged in environments where uncertain health risks are encountered.

Under the **"General Duty Clause"** the protective standards are considerably higher and worker safety becomes a matter of the utmost concern.

LATAG Recommended Action

The Libby Area Technical Assistance Group believes the present OSHA guidelines for worker safety are unacceptable and should be raised to a level that ensures worker safety in an unknown environment. There is little question the actual health effects, maximum allowable dose, or dose duration associated with exposure to Libby Amphibole asbestos remains in question and is therefore "unknown" under OSHA terminology. Until the actual toxicity of LA is adequately defined and peer reviewed, the Libby Asbestos Site should operate at the highest level of worker safety, not the least acceptable level. LATAG recommends the Health and Safety Plans employed at the Libby Asbestos Site fall under the OSHA **"General Duty Clause"** to ensure worker safety regardless of the cost to removal contractors.

3.5 On-Site Reporting of Safety Problems

Under the *Final Draft Response Action Work Plan* both the Volpe Center and CDM have task requirements and responsibilities with regard to oversight of specific health and safety plans implemented by cleanup/constructors on site.

Volpe Center - *Review and approve the comprehensive site health and safety plan (CDM 2003) and cleanup construction contractor's site specific health and safety plan.*

CDM - *Provide health and safety coordinator(s) for all contractors working at the site.*

The EPA, Volpe Center and CDM all share in the management responsibility to ensure the Libby Asbestos Site operates in a safe and healthy manner and in as much, the agencies have oversight of the overall health and safety of both workers and the residents of Libby at large.

Given the hazardous nature of both the cleanup activities high potential for source material disturbance, the toxic nature of Libby Amphibole asbestos and its potential health impact on the community as a whole, site safety and protective operating procedures should be of the highest priority. The fact is, an unsafe work practice or breakdown of on-site quality assurance could lead to toxic levels of exposure to large sections of the community.

As it is, the entire community relies only on the management control of the cleanup contractors to provide safety assurance. Operationally, under the *Final Draft Response Action Work Plan* the responsibility under OSHA to implement HASP fall within the scope of the cleanup/construction contractors once the HASP are approved. In reality, the best HASP implemented improperly extends potential risk to the entire community. To allow cleanup contractors to police themselves in this regard is neither protective nor safe from a community or worker perspective. Given their inherent responsibilities as project managers, the EPA, Volpe Center and CDM have limited contact with work site safety. In fact, LATAG has learned through a number of former and present cleanup employees that any employee risks being fired for bringing safety concerns directly to EPA, Volpe or CDM. Therefore, the sole remedy for on-site safety violations rests with the very contractors that stand to lose the most if a safety infraction is openly identified by an employee.

At the very least, it should be assumed that any serious safety infraction that might lead to community exposure may never reach any level of oversight management and therefore, will avoid constructive remedy, even if the employee has the best of intentions. A significant number of potential exposures, material releases, and safety infraction have been reported to the LATAG by several present and past employees. These serious concerns still remain outside the knowledge of either Volpe Center or CDM.

LATAG Recommended Action

Without suffering any threat of termination or layoff, cleanup/construction employees should feel secure to report safety violations, unsafe work practices as well as potential or actual community exposure directly to CDM, Volpe Center or the highest level of management authority within the Libby project.

Without threat, any employee should feel confident to address safety concerns to the LATAG and remain anonymous in doing so. The LATAG should have access to the CDM Site Health and Safety Officer to request follow-up and response from the cleanup/construction contractors should violations be reported. Under no circumstance should LATAG have direct contact with the cleanup/construction contractors regarding employee or resident complaints. In

serious cases, LATAG should request a full written report outlining specific concerns when involving potential community exposure or potential exposure to individual workers.

Under the *Final Draft Response Action Work Plan,* CDM is responsible for *"providing removal oversight and health and safety services for the cleanup / construction contractors. As such, CDM removal oversight and Site Health and Safety Officer (SHSO) will enter the containment on a regular basis to inspect the work. Any issues identified during these inspections will be brought to the attention of the cleanup/construction contractor who will be responsible to perform any corrective actions necessary."* LATAG feels that under this jurisdiction the Site Health and Safety Officer is also responsible for hearing the complaint, evaluating and reporting on safety concerns brought to his or her attention by workers or property owners. With this in mind, full access to the SHSO should extend without jeopardy to workers and employees engaged under the project and should be welcomed by the cleanup/construction contractors rather than highly discouraged. EPA should enforce this important protective safeguard.

Respiratory protection levels should be extended to any workers who come in contact with or may come in contact with Libby Amphibole asbestos. This restriction should be aggressively enforced in any area containing visual signs of LA containing material. It should also be enforced in areas where pockets of contained LA might be breached during construction work either in the interior or exterior of a cleanup site. Workers at the Libby Asbestos Site risk the chance of exposure to low levels of LA on an ongoing basis and should be fully protected. It has been historically demonstrated that low level exposure can accumulate to toxic levels over time.

LATAG Questions

Are the respirators used on the Libby Asbestos Site able to filter out Libby Amphibole fibers in particular?

What tests have the EPA performed to ensure the respirators used at the Libby site are able to filter Libby Amphibole fibers?

What training has been done by the cleanup/construction contractors specifically addressing the suspected toxicity of Libby Amphibole Asbestos?

With regard to allowing the cleanup/construction contractors to do their own HAZMAT training, what specific requirements are imposed on those training these courses that directly relate to the suspected toxicity of Libby Amphibole Asbestos?

3.6 Volpe Center and EPA Practice of Cost Benefit Analysis

The "Cost Benefit Analysis" is a cost containment tool used by the Volpe Center and the EPA for residential / commercial cleanup. The cost management system seems to be a process designed to weigh various cleanup options and procedures based on their cost verses the benefit derived.

The LATAG agrees with sincere efforts to manage project costs so as to stretch the project's limited budget to its maximum in an effort to achieve one goal, **"cleanup more Libby properties in a cost efficient and protective manner as possible."** It is this goal and this goal only that the LATAG aligns with the underlying mission of the Libby Asbestos Site. In the diligent pursuit of the protective and efficient goal, the project's financial managers must consider equally both "operating costs" as well as the extremely high "overhead and administrative" costs that are associated with the project in order to arrive at a true analysis of "present" project costs as compared to the assumed benefits for each specific action. A second extremely important factor in any successful "cost benefit analysis" is the equal comparison of "future costs" associated with the well established "management in place" concepts practiced by the EPA and Volpe Center. The members of LATAG welcomes the process of cost benefit analysis however believes it is practiced in a very unbalanced manner by project managers by totally leaving out administrative costs, overhead costs and long range maintenance costs from the equation when the experts decide if the cleanup of an aging structure outweighs the demolition and replacement.

As the Libby cleanup process moves forward, hundreds of decisions will be made by managers relating to the cost comparison of demolition verses costly cleanup. Decisions supposedly supported with some outcome of cost benefit analysis. Many such decisions have already been made without consideration of administrative, overhead and long term costs and as it is the community of Libby now faces the final maintenance of these marginal structures merely because the advanced analysis was extremely skewed.
The absence of important contributing costs merely renders the system of "cost benefit analysis" ineffective and troublesome from a health and safety perspective.

LATAG feels strongly that any attempt to contain costs on the Libby Asbestos Site should fall first and foremost to the projects administrative and overhead costs as opposed to the actual amount of monies assigned to property cleanup. When the financial managers look to cost reduction they should look to

the excessive costs associated with project administration and overhead and ask themselves if every level of oversight is necessary, if every segment of contractual reimbursement is necessary, or if the project staff is actually contributing to the goals of the project in a efficient manner. The managers should ask themselves these hard questions long before carving away at actual cleanup expenses. In the past, the project has asked workers to take cuts, homeowners to accept less cleanup, and residents to accept a higher level of future exposure, all in the name of cost containment. The managers have moved from cost plus contract reimbursement to fixed price reimbursement while risking cleanup quality and never once looked to the excessive cost of project administration and overhead as a serious source for cost containment. With a budget of approximately $20 million (fought for by the community of Libby in 2004 to get more residential properties cleaned in a quality manner) it is conceivable that 70, 60 or 50 percent of that hard earned money will go entirely to overhead and administrative expense and never find its way to actual material removal. It becomes difficult for a community to sit back and watch as the employees of contractor's spend up to $1500 a month for housing, a slightly less amount for food above their normal salary and expensive benefits while property owners have to accept the fact that large amounts of VCI and LA material will be left in place because it is merely too expensive to remove. It would be difficult to assume the State of Montana would have used its one time pick as a priority Superfund Site if we were told the quality of cleanup would have to take a secondary seat to the excessive overhead of the very cleanup we were ion need of as an impacted community. It is difficult to conceive that those who first recognized the need to thoroughly cleanup Libby residents would have been so willing to make the funds available if they had known in advance the entire management staff for the project would have come from another part of the country and take weeks on end to travel back home at project expense on a frequent basis piling up exorbitant costs unassociated with actual material removal.

Any system of financial management is welcome by the LATAG if it falls to the true effectiveness and protective nature of the outcome of cleanup. It makes good sense that we make good solid cost containment decisions regarding the final use of the monies appropriated for the Libby Asbestos Site. " Good financial management" should equate to added quality or more material removal, however in today's financial management environment as practiced by the Volpe Center the only hits are taken in the single place they are most disastrous, in the area of cleanup quality and volume.

Today's system of financial management balances operating costs against the benefit of cleanup without due consideration to one of the most important contributing factors, the long range management of in place hazardous

material under the assumption it is either fully contained or infrequently accessed by residents or business owners.

The LATAG believes that over the course of the last few years of *emergency response*, *remedial investigation* and *remedial action* the actual hazards associated with the Libby Asbestos Site have grown far beyond the original perception of the EPA. Further definition relating to the actual health hazard could continue to develop through the last phases of the cleanup. This fact serves to compromise any cost benefit analysis made in today's operating environment by changing a key component, "benefit." In 2002 when acting Region Eight Administrator, Jack McGraw submitted his *Action Memorandum Amendment for the Time-Critical Removal Action at the Libby Asbestos Site, May 2, 2002,* he cited the cleanup of 915 targeted homes and businesses and estimated the cost of cleanup as follows:

800 properties @ $11,000/ property =	$ 8,800,000
100 properties @ $23,000/ property =	$ 2,300,000
15 properties @ $56,000/ property =	$ 840,000
Total	**$11, 940,000**

The estimates were calculated from information presented in the first phase of the Remedial Investigation, before the process of VCI removal was actually in full swing.

As the project began to clean homes and properties the extent of work grew substantially from EPA's original assumptions. Cleanup figures doubled and even tripled above the original calculations, not because of cost inefficiency but directly relating to cleanup complexity. The fact became clear, each structure is very different from the last and therefore, it was next to impossible to get a firm and fixed price on actual cleanup while meeting the same clearance criteria for each. Under a strict "cost benefit analysis" we were simply asking our project managers to perform magic given the true cost of the dynamic project even minus the excessively high overhead and administrative expense.

It is apparent the residential / commercial cleanup at the Libby Asbestos Site has turned out to be much more complicated and costly than originally believed by the EPA higher management. Actual cost for residential cleanup in 2003 under cost plus contracting ran an average of $40,000 to $50,000 per property with the potential cost for commercial properties exceeding those of residential cleanup. A serious factor that could greatly influence the total project costs is if overruns are experienced, they would lower the total number of

properties due to the tight operating budget and the enduring impact of high overhead and administrative costs driving the 2004 commercial property cleanup.

With the arrival of the 2004 cleanup season, the project managers are shifting to a fixed price method on cleanup cost management. Under fixed price contracting the Volpe Center managers assume they can achieve the same level of cleanup for $30,000 per structure far less than the $40,000 to $50,000 average cost last year. Either costs were inflated last season or the project is cutting back on the actual level of cleanup in order to gain this cost advantage. LATAG fears the latter is the case, given the actual content and action levels outlined in the *Final Response Action Work Plan.* In any event, either figure casts a suspicious eye in the direction of overhead and administrative costs in almost unheard of levels.

The EPA plans to cleanup approximately 250 properties at an average cost of $30,000 per property, $10,000 to $20,000 per property less than last year when actually no more than 130 properties were cleaned with the same (approximately) $20 million budget, which leads to the following simple assumption (calculated without actual dollar figures).

130 properties @ $40,000 direct costs = $5,200,000 or with slightly more than 25% of the total budget leaving a whopping 75% flowing to administrative or overhead costs.

250 properties @ $30,000 direct costs = $7,500,000 or with approximately 38% of the total budget, leaving a slightly less whopping 62% of the budget flowing to overhead or administrative costs.

It is impossible to estimate the actual overhead or administrative costs associated with the Libby Asbestos project without the actual figures, of which LATAG has requested. However, the crude thumbnail estimate potentially points to a huge misappropriation of actual funds as it relates to the founding goals and objectives of the cleanup project It seems during the budget crunch brought on by project managers in December 2003 the only two budget areas up for consideration were the total number of properties cleaned and the prevailing wages of the Libby based work force. The huge area of administrative and overhead (regardless of what it turns out to be) was not under the same level of consideration for budget cuts. CDM and Volpe Center staffing level remained consistent regardless of potentially less work assigned to the project by planners. As a matter of fact, high level replacement personnel were hired right in the middle of budget considerations even though the quantity of actual work was slated to drop significantly. In the private environment of "cost containment" or "cost benefit analysis" hiring upper management personnel while simultaneously announcing wage cuts and hour reductions for the workers simply sends the

wrong message to a dedicated work force. Even more importantly, to announce a significant decrease in the quality of cleanup (1% action level in lawns, expensive sampling to avoid visible action levels used in the past, continued retention of VCI in interior structures, and the reduced allocation of monies available for residential and commercial cleanup under fixed price contract management) send an even stronger message to the community, a message that resounds the retention of huge overhead and administrative costs while carving away significantly at direct cleanup costs and wage rates.

Given the extremely important goal of the Libby Asbestos Site to remove hazardous material from the impacted community and the actual process of present cost reduction, it is not difficult to assume that our goals and objectives for cleanup have changed greatly over the years and now. It was never a consideration (or not expressed publicly) to cut the oversight budget of CDM during the loss of $5 million from the operating budget. Instead, the contractor replaced a number of key workers at the same rate of pay and same level of benefit while it went forward with a fixed pricing scheme that greatly reduced direct cleanup monies.

Neither the quantity of VCI, the physical structure, nor the endangerment to the property owners have changed over time. However, the unit cost per structure has somehow substantially declined in the eyes of the Volpe Center, the group responsible for cost benefit analysis. It is completely understandable that in the early stages of *Remedial Investigation* cost estimates could have experienced overruns. However, after cleaning a total of 100 plus structures over the 2003 cleanup season at an average estimated cost far exceeding the new fixed price calculations, begs the serious question as to how this significant reduction in costs are to be achieved without greatly reducing quality.

Even under fixed pricing, the contractors (CDM and Cleanup/construction) are responsible for ensuring the same level of quality in order for the project to demonstrate overall protection of human health. The ultimate goal of the project is to protect the health of residents and property owners from further exposure to LA fibers through the removal or permanent containment of source material including contaminated soils and VCI. Therefore, the "benefit side of the Volpe Center's method of cost comparison is the successful containment or removal of source material and therefore the protection of human health. A key question is how this important goal is met and what the exact weight it is given under "cost benefit analysis?"

A second concern appears to undermine the present method of "cost benefit analysis" practiced by the Volpe Center which is that a huge contributing cost component is just simply ignored as the managers make important calculations and that is any long term operations and maintenance cost

associated with the huge amount of material left behind to be managed in place. Like it or not, the decision to management a hazardous material in place carries with it substantial cost considerations and without the inclusion of these costs up front, any cost benefit analysis offers no merit when it come to actual overall costs. Perhaps the intent of CERCLA can serve as a source of insight on the matter of cost verses benefit.

Pursuant to Section 9621- *Cleanup Standards*, CERCLA 121 subsection (a) *Selection of remedial action.* Wherein it states:

(a) Selection of remedial action.

> *The President shall select appropriate remedial actions determined to be necessary to be carried out under section 9604 of this title or secured under section 9606 of this title which are in accordance with the extent practicable, the national contingency plan, and which provide for cost-effective response. In evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short-and-long term costs of such actions, including the costs of operation and maintenance for the entire period during which such activities will be required.*

(b) General rules

> *(1) Remedial actions in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants is a principal element, are to be preferred over remedial actions not involving such treatment. The offsite transport and disposal of hazardous substances or contaminated materials without such treatment should be the least favored alternative remedial action where practicable treatment technologies are available. The President shall conduct an assessment of permanent solutions and alternative treatment technologies or resource recovery technologies that, in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or contaminant. In making such assessment, the President shall specifically address the long-term effectiveness of various alternatives. In assessing alternative remedial actions, the President shall, at a minimum, take into account:*
>
> *(A) The long-term uncertainties associated with land disposal;*

(B) The goals, objectives and requirements of the Solid Waste Disposal Act (42 U.S.C.A. 6901 et seq.);

(C) The persistence, toxicity, mobility, and propensity to bio-accumulate of such hazardous substances and their constituents;

(D) Short and long-term potential for adverse health effects from human exposure;

(E) Long-term maintenance costs;

(F) The potential for future threat to human health and the environment associated with excavation, transportation, and redisposal, or containment.

The President shall select a remedial action select an alternative remedial action meeting the objectives of this subsection whether or not such action has been achieved in practice at any other facility or site that has similar characteristics. In making such a selection, the President may take into account the degree of support for such remedial action by the parties interested in such site.

(c) Review

If the Present selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section 9604 or 9606 of this title; the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

(d) Degree of cleanup

(1) Remedial actions selected under this section or otherwise required or agreed to by the President under this chapter shall attain a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and of control of further release at a minimum which

assures protection of human health and the environment. Such remedial actions shall be relevant and appropriate under the circumstances presented by the release or threatened release of such substance, pollutant, or contaminant.

Community Concerns about Project and Site- Specific Cost Benefit Analysis

Effective cost management in both practice and theory must be comprehensive in scope in order to be of true value to the project. To simply not include the long term maintenance costs attributed to hazardous material left in place on Libby properties is to overlook perhaps the most important and costly element in the overall process. Also, because the cleanup project centers around the protection of human health, and does not include any potential health care costs associated with future exposure, in the event containment is breached or 1% LA material is found to be highly toxic, that does not appropriately weigh the "benefit" side of the analysis, should cleanup fail to any degree.

LATAG is under the impression *Cost Benefit Analysis* is performed on each property slated for cleanup. As this management tool is implemented, decisions relating to structure demolition versus cleanup are made. It appears that on several occasions, project managers have answered the difficult question relating to structure demolition by relying on a number of basic elements which might include:

* Remediation costs that will be incurred even if the structures are demolished.

* The ongoing cost of relocation of the property owner during demolition and rebuilding.

* The cost of haulage of contaminated material from demolition site.

It has been assumed in the past, cleanup as opposed to demolition and replacement is the most cost effective approach even for older structures in poor repair. In order to preface the following remarks it should be pointed out that the LATAG completely supports the concept of *Cost Benefit Analysis* and believes it to be an appropriate decision making tool at the Libby Asbestos Site if performed comprehensively. However, the *Cost Benefit Analysis* must include all the appropriate elements in order to truly reflect a beneficial outcome. Two things that are troubling to the LATAG with regard to this present approach are:

1. If *Cost Benefit Analysis* is to be used effectively as a management tool, it is assumed that the EPA and the Volpe Center have considered all other available options as opposed to only those outlined in the *Final Draft*

Response Action Work Plan and *Final Draft Design Analysis Report.* It is further assumed, as a valuable part of that overall analysis, alternative technologies and approaches have been studied and presented to the EPA management for final consideration as mandated under CERCLA relating to the review of such plans.

The LATAG would be interested to review, in detail, any opposing plans or technologies relating to cleanup verses demolition thus far submitted for EPA consideration. In the unlikely event no opposing plans or technologies have been presented for EPA consideration or review, we are concerned a comprehensive *Cost Benefit Analysis* has not been performed for each property in question.

2. In the event the only plan that has been put forth for EPA consideration by the Volpe Center and CDM is contained in *Final Draft Response Action Work Plan* and *Final Draft Design Analysis Report* then the LATAG takes exception not only to the selection process in light of mandates set forth in CERCLA with regard to the submission, review and selection of remedial action plans, but management methods in general.

The LATAG supports the concept of *Cost Benefit Analysis* and realized its potential overall value to the Libby project. However, in order to be useful at all, the analysis must be comprehensive in nature and not absent huge contributing factors like long range maintenance costs. CERCLA law is clear on the responsibilities of the President and his delegate the EPA, with respect to mandates relating to cost effective response when it says

" in accordance with this section and, to the extent practicable, the national contingency plan, and which provide for cost-effective response. In evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short- and long-term costs of such actions, including the costs of operation and maintenance for the entire period during which such activities will be required."

When on-site decisions are made by either the Volpe Center or the EPA detailing the cost analysis or cost comparison of structure demolition versus cleanup the language of CERCLA seems to necessitate the inclusion of both short term and long term costs including those associated with operations and maintenance. That is to say, any effective *Cost Benefit Analysis* performed on the project as a whole or on a structure by structure basis, should include a projected cost component for operation and maintenance. The omission of this important element renders the analysis not only inappropriate as a management tool, but seriously misrepresents the actual cost.

To somehow shift the potential cost of operation and maintenance onto the impacted property owner, State of Montana or the community of Libby does not follow

the intent of the CERCLA law. The element of long term maintenance cost is particularly important at the Libby Asbestos Site because of the Volpe Center and EPA's decision to leave substantial amounts of contaminated material in the interiors and exteriors of Libby properties.

When it comes to decisions regarding demolition and replacement versus remediation of Libby structures *Cost Benefit Analysis* is greatly skewed in favor of cleanup if operation and maintenance cost are ignored. As a matter of fact, most of the subject properties in Libby have a relatively short life expectancy given their age, condition and the harsh environment in which they exist. This fact is well known to the Volpe Center and EPA and in his 2002 Action Memorandum J. McGraw, Region Eight Director clearly points out:

"The socioeconomic status and isolation of Libby further contributes to health issues. Homes tend to be old, in poor repair and require frequent maintenance or renovation. EPA has documented ongoing releases of contaminated insulation from ceilings and walls inside Libby homes. Residents are likely to attempt unskilled asbestos abatement, home repair, or renovations. This greatly increases the risk of release and exposure to asbestos."

The memorandum clearly identifies the potential for continuing cost of maintenance on Libby properties long after cleanup.

To simply ignore the existence of future operation and maintenance costs in the planning preparation is also not consistent with the intent of CERCLA.

Section 9621 Cleanup Standards

(CERCLA 121)

(b) General Rules

(1) Remedial actions in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants is a principle element, are to be preferred over remedial actions not involving such treatment. The offsite transport and disposal of hazardous substances or contaminated materials without such treatment should be the least favored alternative remedial action where practicable treatment technologies are available. The President shall conduct an assessment of permanent solutions and alternative treatment technologies or resource recovery technologies that in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or containment. In making such assessment, the President shall

specifically address the long-term effectiveness of various alternatives. In assessing alternative remedial actions, the President shall, at a minimum, take into account:

(A) The long-term uncertainties associated with land disposal;

(B) The goals, objectives and requirements of the Solid Waste Disposal Act

(C) The persistence, toxicity, mobility, and propensity to bio-accumulate of such hazardous substances and their constituents;

(D) Short- and long-term potential for adverse health effects from human exposure;

(E) Long-term maintenance costs;

(F) The potential for future remedial action costs if the alternative remedial action in question were to fail;

(G) The potential threat to human health and the environment associated with excavation, transportation, and redisposal, or containment.

LATAG Recommended Actions

The LATAG would like a full accounting of the actual costs associated with the cleanup, including the amount of money paid CDM, Volpe Center each cleanup year starting with 2001 onward.

The LATAG would like to review a copy of the contract entered into with CDM to provide services to the Libby Asbestos Site including a breakdown and explanation of those services.

The LATAG would like to review any and all employee benefits, per diem, travel costs, and living expense provided to CDM and Volpe Center employees working on the Libby Asbestos Site or in any way associated with the site in a reimbursement sense.

The LATAG feels the EPA should firmly establish realistic overhead cost, and administrative costs for the project and negotiate service contracts that do not exceed those assigned costs.

In the event the LATAG employs the services of nationally reputable accounting or audit firms to assess actual project costs, the group asks for the full support of the EPA.

In an effort to fully understand the present allocation of funds and any policies that might change as to their inquires, the LATAG wishes EPA to set up a one day open meeting with the three primary decision makers on the Libby Asbestos Site, John McGuiggin, Volpe Center, Tim Wall, CDM and Jim Christiansen, EPA Remedial Project manager. The meeting should be held in Libby so as to give the community an opportunity to participate .

When site specific decisions are made regarding either cleanup or demolition of properties, actual overhead, administrative and long range maintenance cost are included.

Cost Benefit Analysis used on properties under consideration for cleanup should include a long term component for projected Operations and Maintenance costs.

Cost benefit Analysis used on properties should contain a projection of future health care costs in the event the containment of on site material and VCI is not successful.

The EPA should develop a comprehensive long-range *Operations and Maintenance Plan* and clearly define the process to be used to handle the cost to maintain in place the concentration of LA material and VCI left behind on Libby properties.

The EPA should consider working with LATAG to develop a long-term Operations and Maintenance Plan that covers the private properties in Libby. **The EPA should look to LATAG as a leader in the successful development of this important process.**

Section Four

Libby Amphibole Asbestos Left in Place
A Breakdown in Commitment

We Have Been Told for Years a Little Vermiculite Won't Hurt You

Section Four Libby Amphibole Asbestos Left in Place— A Breakdown in Commitment

4.1 Narrative

During the first stage of the EPA's cleanup of residential and commercial properties in Libby, a significant change in both procedure and philosophy has been observed by LATAG.

Under *Emergency Response* as the agency addressed the cleanup of larger contaminated sites, it was apparent their procedure included the removal of the greatest amount of source material possible. This process was justified within the community as a protective measure implemented to decrease the potential of future and ongoing exposure. The protective nature of this approach was expensive but very cost effective because once the material was removed, future operations and maintenance costs were substantially decreased if not eliminated altogether. More importantly, the removal procedure under *Emergency Response* was extremely protective to human health and acceptable to the heavily impacted public.

The EPA turned their attention to the residential and commercial cleanup of Libby once the "action levels" started to change as we moved toward the remediation of physical structures. This change in approach was possibly stimulated by the high costs of source material removal under *Emergency Response*.

The EPA and the Volpe Center first believed that VCI material identified at the residential /commercial cleanup sites could be permanently contained and managed in place within the subject structures. This change in approach from material removal, to containment seemed to be supported by the assumption the VCI was better left undisturbed within structurally sound walls and therefore isolated from the living space. The procedures used to achieve this containment, includes the use of various construction materials such as; self hardening foam, foam board to block open spaces and various types of liquid encapsulates. These methods are employed to prevent the potential release of LA fibers or gross material through either the exterior or interior walls. However, if unsuccessful, or in someway breached, the isolated pockets of VCI are likely to migrate back into the living space or fall to the ground below exterior walls and be re-introduced as a contaminant which will nullify the protective effects of the cleanup.

The structural integrity of the older homes and businesses in which the agencies continue to try to contain hazardous VCI varies greatly and will by circumstance continue to change dramatically over time. At best, the containment of VCI within the walls of the older structures

in Libby demonstrates a temporary solution and offers only short term protection from LA exposure.

At several locations visible signs of VCI thought to be contained, began to appear within the living spaces and along exterior walls within days after the clearance passage. Other locations have managed to keep the VCI material contained. However, no repair work, remodeling, or minor modifications have yet taken place. There are many homes and businesses that may successfully isolate VCI in place for years after the EPA has completed its cleanup. However, in the event of property alterations or physical damage, the hazardous material will be released and the property will once again be contaminated. The containment theory employed by the Volpe Center and EPA is neither protective, safe, nor acceptable to the already highly exposed community.

Permanent containment or isolation of VCI within the older structures in Libby will prove in the future to be either very temporary or unsuccessful at many locations within the community. Perhaps in response to this knowledge the EPA and the Volpe Center have started to decrease their commitment to the Libby community by restating their position to include efforts to the "minimization of release" of hazardous materials as opposed to removal or permanent containment or isolation. To further support their new theory of partial containment the agencies now assert Libby residents and business owners can somehow sustain a "minimum dose" of LA material over "short durations" without causing permanent health effects. This assumption has been actively communicated to the Libby community by media material released by the EPA over the last year. The agency produced and released with ATSDR's review and approval a "Fact Sheet" entitled *Living with Vermiculite* which outlines the dangers of exposure to LA. However, this fact sheet promotes a number of steps private property owners can take to minimize the potential health effects of short term exposure. The agency's communication highlights the high provability residents will come in direct contact with uncontained source material in their homes and businesses and attempts to diminish the concern over this contact by alluding to the unsupported premise that traditional exposures in the Libby area resulted from long duration, high volume occupational exposure. This misleading presumption is supported by neither existing medical data nor scientific conclusion. On the contrary, existing medical files are filled with mesothelioma cases that are the result of low grade, low dose and short duration exposure to LA fibers.

Stimulated by the high cost of source material removal, the inherent complications, and short term aspects of physical containment within old structurally unsound walls and ceilings the underlying assumptions of cleanup seem to have changed dramatically from removal to containment, to minimization of release and further digresses within the Final Draft Response Action Work Plan to include the message to property owners that they can somehow simply "stay away" from hazardous material. So we have gone from "removal" to "containment" to "minimized release" to "staying away" in our planning methods.

Until the Libby public is completely educated with regard to the actual hazards associated with exposure to LA and the medical and scientific communities finally determine the "minimum" and "maximum" allowable dose without health effects, the " minimization of release

or staying away" are not effective operating strategies and cannot be considered viable or protective.

The most potentially injurious pathway identified by past EPA research is identified as human inhalation of interior dust. The LA fibers associated with this interior dust originates from a number of point locations including; attic and wall insulation and exterior contamination found in lawns and gardens and tracked into the living space by humans or pets. The agencies have learned two important lessons relating to past cleanups in Libby. First, the "removal" of source material is not only cost prohibitive, but in some cases unachievable and second, physical "containment" of the source material in some if not all older structures comes with very limited success. The "minimization of release" theory comes with its own set of problems as a result of the overall lack of scientific research for an acceptable allowable dose or even the duration of allowable exposures without adverse health effects.

The agency's answer to the continued release of LA contaminated material after residential and commercial cleanup is to place the responsibility of preventing future exposure to the property owners and residents by instructing them to simply "stay away."

Toward the end of the 2003 cleanup season, the Volpe Center and EPA started to hand out small HEPA vacuum cleaners to Libby residents complete with a "Fact Sheet" identifying the ongoing need for interior cleanup in order to ensure any level of protection. This effort on behalf of the Volpe Center and EPA now places the burden of exposure prevention directly on an uninformed, untrained public, many of whom have already suffered adverse health effects from exposure. Even as a temporary solution to the uncontrolled release of LA in Libby homes and businesses the HEPA vacuum cleaner program again provides no permanent solution to the provability of future exposure as a result of the continued structural dilapidation of homes and businesses.

A second burden placed on the property owner by the newly released work plan exists in the area of lawns, gardens and driveways that surround many homes in the community. Unless the LA bearing material tests to 1% asbestos by weight, it will be left in place completely uncovered and uncontained. Historically, the EPA has considered these same areas a potential source for LA material to be tracked into the interior living space and therefore available for dust contamination. The EPA itself, does not consider the 1% action level for exterior lawns, driveways and gardens to be either safe or acceptable. However, under the proposed work plan the unsafe and unacceptable source material will be left in place without any effort to contain or isolate it from direct access.

Contaminated exterior soil, regardless of its asbestos content, exists as a primary source of LA fibers and will remain permanently available for re-entry into already cleaned structures via tracking. The only important determination that needs to be made, is just how long it will take for the LA fiber content within the home or business to accumulate before injurious levels to human health occurs. Neither the Volpe Center or the EPA are prepared to calculate the accumulative time or estimate the exact exposure risk associated with leaving soils testing less

than 1% in place. The present position of the Volpe Center and the EPA with regard to this large source of contaminated material left behind in lawns and driveways is that these areas do not constitute "specific use areas" and therefore, are infrequently accessed by residents or members of the general public. This position is completely unsupported by either site specific research or scientific findings.

The Volpe Center and EPA's commitment to the Libby Asbestos Site again depreciates over time from: "removal" to "containment" to "minimize release" and finally to "contamination avoidance on behalf of the impacted community."

Further discussion with respect to LA material scheduled to be left behind or managed in place under the proposed plans follow within the next few sections of this report. Each case is presented in detail and is supported by historic information presented by the EPA between 1999 and the present. Each section is designed to support the present perception that cleanup standards, action levels and commitments have substantially changed over the last few years and that these perceived changes are not protective in nature and will result in future exposures.

4.2 VCI in Residential and Commercial Property

From 1999 to the present the EPA and Volpe Center have communicated their changing position on the removal and in some respects the containment of VCI present in the residential and commercial properties throughout the Libby Asbestos Site. The changing nature of their commitment significantly increases the gross quality of the LA left behind to be managed in place by the community after the EPA response action is deemed complete. The large quantities of VCI material that will remain in place within residential and commercial structures contain Libby Amphibole Asbestos reported in quantities between 1% to 5% asbestos by weight. The remaining material is considered extremely "friable" by nature, and easily migrates downward through walls and ceilings sometimes ending up in basements and crawl spaces.

VCI material is determined to be one of the primary and most dangerous point sources for interior dust contamination and therefore a major pathway for human exposure. Under the present cleanup, gross or bulk VCI material is removed from attics and accessible voids inside some walls. Material that is hard to access during removal or material located deep inside exterior walls simply remains in place. Present technology used in the containment process includes: self hardening foam, foam board, cardboard and various sprayed on encapsulates resembling varnish or paint.

Once the gross material is removed from the attic, the interior living space is cleaned to the degree outlined in the removal contract. Drapes, carpets and other fabrics are HEPA vacuumed and electrical fixtures and wall plugs are sealed with silicone. At this point the interior cleanup is considered complete. Aggressive clearance testing is then performed using a powerful leaf blower and a series of stationary air

sampling monitors to collect and record any LA fibers in the air. The clearance criteria used on residential and commercial property is extremely protective and is considered five times more stringent than is necessary. The problem with the clearance testing procedure is, it tests the physical environment at its potentially highest point of efficiency, that is, right after aggressive cleanup is complete. Sadly, the only thing the aggressive testing ensures the property owner is that at the time the tests were performed the structure was considered "safe for human occupancy." The reality is, the next time the door is opened, a wall is punctured, a door or window frame is repaired, the thin coating of encapsulate sprayed on a floor is worn or scuffed, or LA contaminated material is tracked in from the exterior, the entire environment may not pass the same protective clearance test. A protocol of post cleanup testing is presently in place and allows CDM and the EPA to retest the structure some months after the cleanup to ensure cleanup standards remain.

The change from LA material removal to containment came as a result of the extremely high cost of material removal as well as the likelihood of severely limited success. The theory of physical containment was the only option other than structure demolition. Presently it has been determined by the EPA, the Volpe Center and CDM that the best operating plan still centers around the attempt to contain VCI within the aging walls and ceilings of homes and businesses located on the Libby Asbestos Site. The short term success of this containment strategy depends greatly on the structural integrity and life expectancy of the subject properties which is defined for us in detail by EPA Acting Regional Administrator, Jack McGraw in his May 2, 2002 Action Memorandum to EPA Assistant Administrator, Marianne Lamont Horinko;

"Although the EPA is further investigating a number of scientific and legal issues, there is a clear concern for the health of the citizens of Libby. Therefore, it is proposed that the EPA proceed on all of the cleanup activities planned or underway, according to this Action Memorandum Amendment. This is to include the removal of vermiculite insulation from businesses and residences as necessary to assure the community's health is protected."

"This approach is necessary because EPA and ATSDR investigations indicate that people in Libby have been chronically exposed to amphibole asbestos via multiple pathways and those cumulative exposures may be contributing to asbestos-related health effects"

"Homes and Businesses within Libby City limits: homes within the City of Libby tend to be older (constructed prior to 1950), smaller (<1500 sq ft), and on smaller lots (< 1/4 acre). There are roughly 600 homes within the city limits. Because of their age, and the harsh winter conditions in this part of Montana, the homes tend to require a higher level of maintenance work than most homes across the country. The homes typically remain tightly shut during the winter season, due to the local climate."

"2) Asbestos releases to the environment from contaminated vermiculite sources: EPA has observed that older residences and businesses are most likely to contain contaminated vermiculite insulation in Libby. The age and condition of these structures increases the likelihood of exposure to asbestos. Since Libby has the second lowest per capita income in Montana, many people tend to do repairs themselves, or postpone home repairs. The resulting poor home condition increases the potential to release contaminated vermiculite insulation into the living space. In some Libby homes, vermiculite insulation is literally falling out into the living space from gaps around light fixtures and electrical switches. EPA sampling has detected amphibole asbestos in dust in the interior of approximately 25% of the homes tested in Libby. EPA believes that at least some of the contamination is related to the vermiculite insulation in the homes."

*"If **Removal Actions** are not initiated or continued, people will be exposed to unsafe levels of amphibole asbestos at all the locations discussed in this Action Memorandum."*

Physically, nothing has changed in Libby, Montana since the time of McGraw's memo. The structures that McGraw talks about in his 2002 memorandum still contain the same amount of LA. The toxicity of LA is more alarming than originally believed and the structural integrity of homes and businesses continue to decrease due to age and environmental circumstances. In his funding memorandum, Acting Administrator McGraw's observations were right on point. However, these observations are not reflected to any degree in today's operating assumptions proposed in the *Final Draft Response Action Work Plan, Final Draft Pre-Design Inspection Activities Work Plan, Final Draft Design Analysis Report or the Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria – Technical Memorandum* and therefore display a marked difference in EPA's level of commitment to the community's health and welfare. Instead, a scientifically unsupported theory dominates the new planning process on behalf of the Volpe Center and EPA. An assumption that maintains that small quantities of VCI encountered in living spaces in which residents spend most of their time, is somehow considered "safe." Because the site now operates under the unsupported assumption that a little LA infrequently encountered somehow "will not harm humans," a far less costly cleanup philosophy has been implemented centering around management in place, minimization of release or the suspicious premise that somehow Libby residents can simply avoid contact even if they are not aware of the exact location of the material.

It is possible over 1500 structures located within the Libby Asbestos Site could be slated for some level of cleanup under EPA *Emergency* or *Remedial Action Response*. The inherent risk associated with leaving VCI behind in Libby homes is clearly pointed out in McGraw's Action Memorandum when he defines the present

condition of the homes and business in the community. However, the present operating assumptions proposed by EPA, and the Volpe Center seem to set McGraw's informed observations aside and replace them with the premise that the older "wooden" structures in the community are somehow suitable for the permanent or long term containment of the highly toxic LA source material. However, it merits mention that at this point, these decisions come as a result of almost no site specific research and in the face of failure after failure during the 2003 cleanup season with regard to LA containment within the aging structures.

Millions of dollars have already been spent to cleanup homes and businesses to the high standards set by the clearance criteria, only to face the possibility of recontamination through the partial or entire failure of containment methods brought on by the continuation of a normal aging process. This procedure could completely compromise the process. To answer the fact of containment failure, the agencies now assume the small amount of interior leakage of this highly toxic material can be successfully cleaned by personal HEPA vacuum cleaners or merely tolerated and "lived around."

In the unlikely event the containment strategies presently underway by the Volpe Center and CDM management and the site removal contractors remain intact over the duration of the EPA cleanup of Libby, there is absolutely no assurance that the older structures will successfully serve as containment vessels over the short or long term future of the site. With this in mind, the present and proposed cleanup strategies represent a very unstable and cost inefficient solution to the contamination of residential and commercial properties in Libby. The important fact to remember is, neither the EPA, ATSDR, or medical science in general, fully understands the exact exposure level associated with LA which will result in a negative health impact. Any failure to permanently contain LA material inside living spaces comes with great risk to public health and safety. Further, given the well documented condition of the structures in Libby, any attempt to manage the LA material in place is speculative at best and certainly does not represent a permanent solution or a protective strategy.

The *Final Draft Response Action Work Plan* basically set earlier EPA strategies and observations aside without the benefit of conclusive research relating to the long term impacts of failed containment. The present assumptions are not supported by any long range maintenance strategy and therefore lack merit as a permanent solution to interior space contamination.

The Volpe Center and EPA documents further perpetuate the changing nature of the cleanup process and propose to leave behind LA material in the following manner.

4.3 Vermiculite Containing Insulation Left in Place at Aging Residential and Commercial Properties

EPA *Emergency Response* began in 1999 and continues to some degree as the Libby Superfund Project proceeds into the 2004 residential/commercial property cleanup season. During the 2004 cleanup season the project shifted somewhat into *Remedial Action.*

As the cleanup of properties in the Libby area continued, decisions were made by the EPA to leave behind known quantities of Libby Amphibole asbestos at each property under the theory such material could be managed in place and therefore will cause little or no continuous exposure. Examples are:

- Vermiculite containing insulation left in Libby structures
- Libby Amphibole asbestos being left uncontained in lawns.
- Libby Amphibole asbestos being left behind on some large land sections without remediation.
- Material left in place in heating ducts.
- Material left in place and uncontained in crawl spaces.
- Material left in place under certain decks and porches.
- Material left behind at depth.

Each case will be addressed as a separate section with regard to both comment and **LATAG proposed Recommended Actions**. This section will first identify either past commitment or protective positions taken by the EPA.

In the LATAG discussion of each of the following places VCI or LA is slated to be left behind the organization will first site the controlling "action level" (point used to trigger cleanup work either in the interior or exterior of Libby structures. These action levels are taken from *Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum, December 15, 2003.*

These action levels will be the starting point for all further discussions under each section.

4.4 Vermiculite Containing Insulation Left in Libby Structures

Action Level: Any one of the following conditions will generally trigger emergency response cleanup for that portion of the property.

ATTIC/WALLS

- Visual confirmation of open, non-contained vermiculite insulation.

INTERIORS

- Visual confirmation of vermiculite in indoor living space.
- Concentration of LA in an indoor dust sample greater than 5,000 Libby (LA) structures per square centimeter (s/cm2) using Asbestos Hazard Response Act of 1986 (AHERA) counting methods. This will be referred to as 5,000 AHERA s/cm2.

Each level, or floor, of a building is evaluated and sampled separately. At least two samples are collected from each floor. Libby sampling data has shown that in many cases, only one floor is highly impacted (e.g. material tracked in from outside on ground floor). This sampling and cleanup approach allows us to focus cleanup resources on a portion of the interior where the greatest problems exist.

Past EPA Positions:

EPA Action Memorandum Amendment for Time-Critical Removal Action at the Libby Asbestos Site-Libby, Lincoln County, Montana
Jack W. McGraw, Acting Regional Administrator, EPA Region Eight.

"Although the EPA is further investigating a number of scientific and legal issues, there is a clear concern for the health of the citizens of Libby. Therefore, it is proposed that the EPA proceeds on all of the cleanup activities planned or underway according to this Action Memorandum Amendment. This is to include the removal of vermiculite insulation from businesses and residents as necessary to assure the community's health is protected." (Page 1)

2) "Asbestos releases to the environment from contaminated vermiculite sources: EPA has observed that older residents and businesses are most likely to contain contaminated vermiculite insulation in Libby. The age and condition of these structures increase the likelihood of exposure to asbestos. Since Libby has the second

lowest per capita income in Montana, many people tend to do repairs themselves, or postpone home repairs. The resulting poor home condition increases the potential to release contaminated vermiculite insulation into the living space. In some Libby homes, vermiculite insulation is literally falling out into the living space from gaps around light fixtures and electrical switches. EPA sampling has detected amphibole asbestos in dust in the interior of approximately 25% of the homes tested in Libby. EPA believes that at least some of this contamination is related to the vermiculite insulation in the homes." (Page 9)

"EPA and others have demonstrated the friability of the fibers by conducting workplace and recreational exposure sampling scenarios in Libby. Sample results for sweeping, transferring vermiculite between containers, and EPA cleanup activities yield airborne asbestos levels of over 1.0 f /cc. Sampling for recreational exposures have shown exposure levels of 0.2 f /cc on a school track. These levels far exceed the Occupational Safety and Health Administrations (OSHA) permissible standard of 0.1 f /cc."

The visual confirmation action level employed in interior cleanup has been supported historically by the valid assumption that source material is usually contaminated at levels high enough to merit removal and therefore do not need to be further sampled. This procedure is both cost effective in that it reduces the expensive costs of sample analysis and handling and protective in that it calls for the removal of open and accessible VCI material. However, it extends the actual cleanup commitment on behalf of the Volpe Center and EPA.

The 5,000 AHERA s/cm2 action level is believed to be employed in some cases when point source material is observed in very small quantities and merits a much lower level of interior cleanup as is the usual case. The decisions in these cases are made by professionals in the field.

The operating assumptions expressed throughout the *Final Draft Response Action Work Plan* and the *Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* are designed to support the Volpe Center and EPA's current decision after a residential or commercial cleanup to leave contaminated material behind in a contained, isolated or infrequently accessible space. The support of this decision is based on two assumptions:

1) VCI can successfully be managed in place over time.

2) Infrequent exposure is not harmful to human health.

Operating Assumption

Vermiculite containing insulation either put into place under original construction or material that has migrated down through the walls from the attic can be successfully contained and therefore managed in place.

A large share of the structures under consideration for remediation or those that have already gone through remediation in the Libby Asbestos Site are at least 40 to 50 years old. Due to the decreasing socioeconomic condition of the community, these structures have received sporadic repairs generally performed by the property owner with great concern as to the final expense of those repairs. The structures have been subject to a lifetime of harsh weather and a moist environment, both of which have some negative impact on the predominately wooden structures. Older wooden structures like those in Libby cannot help but suffer both structural and surface deterioration because of harsh and moist environmental conditions over the years. The same wooden structures now used as containment vessels for hazardous LA materials will continue to suffer this same level of structural and surface deterioration over time and therefore will at some point release hazardous material back into the environment. Under no other circumstance, and sponsored by no known federal or state regulations addressing the storage of hazardous material or substances could the Volpe Center or the EPA get by with the storage of asbestos containing material in wooden containment vessels. Under no circumstance could the agencies meet the requirements of state or federal regulations relating to the long term storage of asbestos if they were to identify wooden containment structures at a dump site as the containment vessel of choice. Even to haul asbestos containing material to a dump site requires special precautions and equipment. It seems impractical to assume the same VCI material considered an extreme hazard on one hand, can be stored in 50 year old weathered structures already identified as being in poor repair by the EPA.

During cleanup and site restoration very little is done to make the aging Libby buildings sounder structurally. Rather, the EPA's primary emphasis is on a threefold goal; bulk material removal, containment of remaining material and meeting initial clearance criteria. The only long term quality assurance procedure that seems to be in place is a program that allows for interior re-testing some time after the cleanup is complete to ensure the living space has remained at safe levels. The long term structural dilapidation of the subject structures are not even addressed by the EPA and Volpe Center's cleanup. Still the EPA and the Volpe Center believe they can permanently contain substantial amounts of remaining VCI in open voids existing within these buildings.

The EPA and Volpe Center have been successful in most cases to get structures cleaned in order to pass aggressive clearance tests performed directly following cleanup and even pass post cleanup clearance tests. However, very serious questions remain as to the ability of these older structures to remain completely intact over the

next 10 to 40 years, which adds a temporary face to the project overall. The fact is, if any risk exists for future reintroduction of LA containing VCI back into either the environment or the living space under present cleanup assumptions outlined in the *Final Draft Response Action Work Plan, Final Draft Analysis Report or final Draft Pre-Design Inspection Activities Work Plan* the work today merely represents a temporary solution.

In the event the Libby structures are able to pass as containment vessels over the short term (1 to 3 years) the LATAG questions their ability to do so over time. In fact, the LATAG believes structures will continue to change and dilapidate over time and their hazardous content will be returned back into the environment or interior living spaces without the knowledge of either the EPA or Volpe Center. This situation will create very much the same hazardous condition that originally existed before Libby was recognized as a Superfund Site. LATAG believes the aging in Libby's older structures have a good chance of one of three things happening to them over the next 10, to 30 years. They will be remodeled, demolished or burn down.

Remodeling and Demolition Considerations

The following considerations should be taken into consideration before we plan to use wooden structures as containment vessels:

- The building will continue to age and even dilapidate until the physical structure around the presently installed containment devises weaken or fall apart and therefore reintroduce the contaminated material back into the environment or into the living space. This will potentially start a new round of future exposure to the fibrous material without agency detection.

- There is a possibility that a number of the structures will burn down and therefore the contained material cannot help but be reintroduced to a full extent back into the environment.

- Following historic trends, it is highly possible that many of the older structures will undergo significant remodeling or reconstruction which will pose serious problems to future homeowners with respect to the exact presence of contained material.

- Available privately owned property on which to build new homes is severely limited in the Libby area and the LATAG believes there will continue to be those who wish to live within the present township. As a result, the possibility exist that the land upon which the older homes that have under gone cleanup and containment will be used as a future site for new construction. As the older homes are demolished to make room for this construction, the contaminated material left in place by the EPA and Volpe Center will become a serious and costly expense to the homeowner

wishing to demolish the older structure.

With regard to either remodeling or demolition the LATAG feels the decision made by the EPA and Volpe Center to leave LA material in place in older homes will result in the final expense of total removal to actually be passed on to the homeowner. As we make decisions today about VCI containment in residential and commercial property driven by project cost considerations, the responsible agencies do not seem willing to address the future costs of the contained material or ensure the cost will not be passed on to the home or business owner in the future. The fact is, as these decisions are made without due consideration on behalf of the property owners or the Libby community in general, we have no assurance future cost of maintenance or abatement will not become the sole responsibility of the property owner. To allow the agencies to make these decisions without full disclosure, is both unfair to the parties involved and places at great jeopardy the secure maintenance of the contained material.

Libby's socioeconomic condition is one of the lowest in the state. It is completely speculative for the agencies to assume property owners will have the necessary funds in the future to maintain the hazardous material left in place. Any work done on homes and businesses in the future will fall under the guidance of presently enforced Montana State Asbestos Abatement Regulations. Which, even today, are strict enough to address even residential structures by maintaining any work done by a general contractor on a property known to contain asbestos containing material greater than 1%, will have its expenses fall on the property owner before any remodeling work is started. These expenses are as follows: First, the structure is inspected by a "State Licensed Asbestos Inspector," test samples are run at the owner's expense. Upon finding asbestos containing material, a "State Licensed Abatement Contractor" must be employed to remove the subject material and upon completion of this costly process, the inspector returns and approves the structure for remodel. The cost of inspection, sampling and abatement fall directly to the homeowner if the work is going to be done by a general contractor.

If the homeowner does the remodeling work himself, any asbestos containing material that tests 1% or greater must be hauled to the "State Certified Dump Site" by a "Licensed Transport Agent" at the property owners expense and when received at the dump site a containment fee is charged (Libby $38/cubic yard).

In the event future remodeling is done in a commercial structure in which vermiculite containing material is left in place as a result of the EPA and Volpe Center's decision, all remodeling plans are subject to review by a "State Licensed Asbestos Inspector," the structure is first inspected, a significant number of samples collected and analyzed at the business owner's expense, asbestos containing material above 1% is removed by a "State Licensed Abatement Contractor," the structure is reinspected and if found acceptable, remodeling work is allowed to proceed.

The decisions made by the EPA and Volpe Center not to remove asbestos containing material and manage that material in place are made without a firm Operations and Maintenance Plan addressing the future costs for abatement remodel or demolition of structures in place. The result is, unless otherwise committed to by the agencies in the near future, the Libby home owners and business owners who were never consulted about future cost and their responsibility for those costs before their interior cleanup was done will absorb the high cost of material abatement handling and storage in the future.

Homeowners and business owners in Libby are not wealthy individuals and the prospect of being able to handle the additional costs of inspection, abatement, handling and storage costs as a result of these decisions is completely speculative.

A serious environmental consequence will take place as a direct result of the shifting of remodeling and demolition costs to already suffering Libby residents. The high cost of inspection, abatement, haulage and storage of asbestos contaminated material left on the property of these uninformed individuals may provoke them to take matters into their own hands and merely dump the material in remote locations. Homeowners and small business owners are already hard pressed to come up with substantial remodeling costs much less, face the future asbestos removal and handling costs which could result in "offsite dumping" of contaminated material further spreading it around the community. The LATAG feels this is a real and serious potential, one which will greatly compromise the health and safety of the entire community over time, as the old buildings are remodeled, repaired or demolished.

The 40 to 50 year old structures in Libby slated for cleanup remain in a constant state of change brought on by both environmental and intentional impacts including:

Potential Environmental Impacts:

- Weathering and decaying of external wood and trim.
- Roof and eve damage caused by snow and ice buildup.
- Physical damage caused by falling trees and branches.
- Damage caused by shifting foundation as a result of either geologic movement or surface reaction to subterranean aquifers upon which many Libby homes are built.
- Wind damage.

- Infrastructure decay and deterioration.
- Damage caused by insect infestation in wooden structures.
- Potential damage by surface flooding of the many creeks that surround Libby housing developments. Many targeted Libby homes are built in certified flood plains, have experienced substantial flooding in the past and may exist in future flood plain designations in the process of being identified by FEMA.
- Potential damage caused by fire, either from the surrounding forest or limited to a particular property.

Any one or a combination of these environmental impacts will result in serious breach of containment. The permanent successful containment of hazardous materials in wooden structures already subject to environmental impacts is highly suspicious and cannot be improved upon. The underlying remedial assumptions outlined in the *Final Draft Response Action Work Plan* as they relate to successful containment of source material, lack any consideration as to the potential breach of the contained material. A second source of containment breach will certainly come as a result of the intentional human acts which will cause both disturbance and reintroduction.

Potential Intentional Breaches of contained structures

- People are going to perform minor repairs to homes containing isolated VCI and there exists a high provability that in the future, contained material will be reintroduced back into the living space as well as back into the environment.
- Due to the age of the Libby structures, there is a good chance they will need electrical and plumbing repairs in the near future. This work will breach the perceived containment zones within the house.
- The physical structure of the homes will continue to change and could separate interior walls reintroducing contaminated material into the living space.
- Interior remodel may occur in the future.
- Interior damage due to accidents that penetrate contained walls.

- Hanging pictures and other wall decorations will penetrate enclosed areas.
- Replacement of interior fixtures like lights, wall plugs, windows and doors.
- The constant rotation of ceiling fans causing enclosed material to be re-introduced.
- Replacement of carpets that were merely vacuumed and not removed during EPA cleanup.
- Replacement of floor boards, floor tiles and other similar coverings as well as the removal of baseboard molding when making such repairs and replacements.
- The constant jarring caused by opening doors and windows and the impact such movement might have on encasements.
- Replacing broken windows.
- Removal of kitchen cabinets attached to the wall during original kitchen construction.
- Replacement of kitchen and bathroom exhaust fans set into ceilings.
- Damage to interior walls due to accident, fire, broken pipes or faulty electrical wiring.
- Replacement of bathroom fixtures including tubs, showers and attached cabinetry.

Any of the above listed activities carried out by the present or future property owner will cause substantial re-introduction of vermiculite containing insulation back into the living space and exterior environment, greatly compromising the cleanup process. The recontamination of the living spaces with any volume of vermiculite source material will start a new cycle of exposure within an already heavily impacted public. There is the possibility that after reintroduction, homeowners could catch the material and dispose of it by HEPA vacuuming. However, without proper training and diligence, exposure will continue to take place and the past cleanup could be rendered worthless.

<u>The only sure solution for the elimination of re-introduction of source materials is simply to remove it without attempting containment or management in place.</u>

LATAG Recommended Actions:

In order to justify the containment of VCI material in Libby structures, the LATAG feels that the EPA and Volpe Center must perform a complete and comprehensive structural engineering analysis on each separate structure and set structural standards for each, below which containment is not an operational consideration. This structural engineering analysis should be done by a professional structural engineer on site, as opposed to someone in a remote office. If the EPA and the Volpe Center feel confident that the older structures in Libby can permanently contain the hazardous material in question, they should feel comfortable enough in their decision to provide future assurances to the community that containment is not only a permanent solution but one that will substantially decrease the possibility of future exposure to Libby Amphibole asbestos. They should be prepared to support this assumption by way of conclusive scientific research. The owners of Libby "containment vessels" deserve to know the structural integrity of the building they place their trust in and will be responsible for maintaining in the future. The LATAG feels an "onsite" structural engineer employed full time by CDM is important to the project if containment continues to be a final consideration. This individual should also follow each structure into the Operations and Maintenance phase of this project. If the engineering decisions of CDM regarding structures considered for containment have merit, they should not be hesitant when it comes to long term liability should recontamination result or future exposure take place.

LATAG feels strongly that the on-site decisions of CDM, the Volpe Center and EPA need to be fully supported by accurate and high level engineering assumptions, not merely by employees who have worked in the construction industry for a number of years. <u>These structural decisions are extremely important to both the health and welfare of the already impacted community and should come from the highest level possible, not the least expensive.</u>

Poorly based decisions relating to long term structural integrity have the potential to cause future exposures to the highly toxic Libby Amphibole asbestos which will in turn result in hundreds of thousands of dollars in medical expense to the property owners, the healthcare delivery system in Libby or the state of Montana in the future. Should containment strategies fail because of unsupported decisions by CDM and the Volpe Center, certain damages could arise in the future making costly litigation a necessity. To make decisions regarding structural integrity without a complete structural analysis on each property by a qualified expert is to act in a negligent manner while possibly greatly impacting public health and safety.

It stands to reason that in support of the premise that VCI and LA can be contained within the older structures of Libby the EPA would request CDM and Volpe Center to complete a comprehensive engineering analysis of each subject structure. In regard to the potential health and safety ramifications of the failure to permanently

contain the highly toxic Libby Amphibole asbestos, LATAG is certain the EPA has done the proper amount of research and structural modeling necessary to support their containment theory. The LATAG would request access to any research and its findings in order to review EPA, the Volpe Center or CDM's assumptions and conclusions. LATAG requests this review in line with the Libby Community's Right to Know and in regard to the EPA's position under *Public Involvement Policy of the Environmental Protection Agency, May 2003* wherein it states:

"EPA's mission is to protect human health and the environment. To achieve that mission, EPA needs to continue to integrate, in a meaningful way, the knowledge and opinions of others into its decision-making process. Effective public involvement can both improve the content of the Agency's decisions and enhance the deliberative process. Public involvement also promotes democracy and civil engagement, and builds public trust."

"EPA staff and managers should seek input reflecting all points of view and should carefully consider this input when making decisions. They also should work to ensure that decision-making processes are open and accessible to all interested groups, including those with limited financial and technical resources."

What are the Purposes, Goals and Objectives of this Policy?

The purposes of this Policy are to:

Improve the acceptability, efficiency, feasibility and durability of the Agency's decisions.

Involve members of the public in developing options and alternatives when possible and before making decisions, seek the public opinion on options or alternatives.

Use public input to develop options that facilitate resolution of differing points of view.

Make every effort to tailor public involvement programs to the complexity and potential for controversy of the issue, the segments of the public affected, the time frame for decision making and the desired outcome.

When Does This Policy Apply?

EPA rule-making, when the regulations are expected to be classified as Significant Actions (under terms of Executive Order 12866)

Selected plans for cleanup, remediation or restoration of hazardous waste sites or Brownfield properties.

All other policy decisions that the Administrator, Deputy Administrator or appropriate Assistant, Regional or Associate Administrator determine warrant public participation in view of the EPA's commitment to involve the public in important decisions.

LATAG wishes to remind the EPA and the Volpe Center that neither they nor the Libby Community has ever supported the decision to leave LA material in place in homes or businesses. Nor has either group supported the theory that VCI and LA can be successfully "managed in place." To the contrary, both the Community Advisory Group and the LATAG have repeatedly stood in open opposition to both operating assumptions and have offered several alternative considerations. LATAG now would ask to review the scientific and research basis for this important input not being justly considered when the final decisions regarding removal and containment were made.

Now it appears that the Libby community suffers the reality only certain hazardous material will be considered for removal and they themselves will be responsible for the remaining material to be managed in place. This daunting task is handed to the community without any commitment for future financial support from the Volpe Center or the EPA, a position that appears to be in direct opposition to the intent of EPA's *Public Involvement Policy*. The community requests a firm plan on future management in place procedures and financial reimbursement.

The theory of long term or permanent containment of the dangerously toxic material in question at the Libby Superfund Site requires the utmost level of trust on behalf of an already highly impacted and sick community. That trust relies on the presumption that Volpe and CDM have studied and researched the premise of containment and have concluded through those complex studies that the process offers both an immediate and long term solution to the problems at hand. The LATAG would like to be able to support the present conclusions of the EPA and Volpe Center with respect to containment and in regard to its own mandate to educate the community. However, to accomplish these goals the LATAG needs full access to the research results supporting these decisions.

The LATAG also requests the EPA immediately begin a comprehensive Operations and Maintenance program that truly addresses future responsibility and handling of the contained material left in place in Libby structures and allow the LATAG to play a leadership role in the development of such a plan. The most important element in this process should center on those stakeholders who have the most to lose, such as

property owners whose homes or businesses have material that has been contained in place. For the EPA and Volpe Center to assume the private property owners of Libby are not a huge financial stakeholder in the long range goals of Operations and Maintenance (O&M) is to totally miss the mark. These impacted parties not only have the most to lose, but are ultimately the parties responsible for the maintenance of most of the hazardous material left in place on Libby property.

To disproportionately represent the private Libby property owners in the process of Operations and Maintenance is to dismiss their important voice in the decision making process as a whole. The impacted public is not just those who might have a financial stake or be responsible for final payment of the O&M process.

As a matter of fact, for the EPA to include W.R. Grace and members of the Lincoln County Government in the present Operations and Maintenance study group without an offsetting voice from those directly impacted is at least undemocratic if not a complete mockery of the importance of property owners role as stake holders. The true voice of the Libby community resounds within the private organization that has mobilized in support of the cleanup and health care considerations in the community, not those who have refused to join in the process as proactive partners.

The proposed plan should address specific procedure surrounding the future maintenance of contained material on behalf of the property owner. It should also identify future costs with regard to both remodeling and demolition and clearly address who will be responsible for those costs over the short and long term future. It should identify what financial role if any, the EPA is willing to play in the offset of future construction or demolition costs resulting from the present day decision to leave VCI and LA in place within the town of Libby and it's privately owned structures.

The plan should address long term engineering assumptions performed by an accredited on-site structural engineer with regard to aging buildings and the actual role the city and county government will play in the event these building are abandoned in the future.

The plan should address funding mechanisms left in place to assist the already economically deprived citizens of Libby should repairs or replacement of properties containing VCI become necessary. This funding mechanism is extremely important to ensure that contained material is not reintroduced back into the environment because the property owner does not have the financial ability to improve or repair his or her property in order to keep the material contained.

The plan should clearly address the potential likelihood that a future permit process will be used by the county or city government to shift the cost of future abatement, haulage, rededication, storage, and site evaluation directly onto the existing property owner. These are costs that could potentially be huge in comparison to remodeling, repair and demolition of subject structures. Without direct representation in

the initial planning process of O&M the individual property owners have no current voice, a situation complicated by their lack of voice when EPA and the Volpe Center decide to leave hazardous material contained in privately owned structures.

As a result of the disenfranchisement of the obliviously impacted property owners, the LATAG wishes to play a leadership role in the development and short term implementation of the Operations and Maintenance Plan and requests that the present O&M planning group be restructured to include a very strong voice from the Libby property owners and a diminished voice from city, county, and government agencies.

The EPA's theory regarding low dose and infrequent exposure to LA contaminated insulation and soils has grown over the last few years under *Emergency Response* and seems to be more a product of the agency's concerns over the cost of cleanup in Libby as opposed to comprehensive scientific or medical evidence. The fact is, little has changed scientifically to prove LA is less disease potent than it was when the EPA mounted its internal justification for Remedial Investigation and Emergency Response back in 1999. As a matter of fact, a host of internal reports, Action Memorandums and Response Actions clearly demonstrate that scientists and toxicologists within the agency today, consider Libby Amphibole asbestos to be much more toxic and disease potent than they originally thought at the onset of the EPA's response action in Libby. Risk scenarios conducted under *EPA's Phase 2 Sampling and Quality Assurance Project Plan* outlined by Paul Peronard, EPA On-Site Coordinator and Chris Weis, Senior Toxicologist for the EPA, firmly dispute the agency's present position that a little exposure to LA or VCI is acceptable and will not result in significant health and safety risks.

The problem is that given the 20 to 30 year latency period for some asbestos related diseases, the Libby community will have to wait to find out if the Volpe Center and EPA's operating assumptions have merit.

ATSDR's Public Health Screening conducted in Libby does not support the present assumptions that low dose, infrequent exposure to Libby Amphibole asbestos is not of concern to on-site workers or residents.

"The adverse health effects associated with exposure to amphibole asbestos in Libby has been clearly documented by occupational studies of former vermiculite mine and processing workers by researchers from NIOSH and McGill University (Amandus et al. 1987a, 1987b, 1987c; Mc Donald et al. 1986a, 1986b) which found that these former workers had significantly increased rates of asbestos-related pulmonary abnormalities and disease (asbestosis and lung cancer). Libby physicians describe health conditions consistent with these studies. Thus, EPA has concluded that Libby residents are a sensitive population. Asbestos exposures which would present acceptable risks to a

healthy population may cause an increase in disease for this highly impacted community"

Action Memorandum Amendment for the Time-Critical Removal Action at the Libby Asbestos Site, May 2002

"Disturbance of asbestos-contaminated source materials by activities similar to those that are likely to be performed by area residents or workers can result in exposures to respirable asbestos fibers in air."

"The concentrations of fibers in air generated by disturbance of source materials may exceed OSHA standards for acceptable occupational exposure, and estimated excess cancer risk can exceed EPA's typical risk range (1E-04 to 1E-06) by an order of magnitude or more. There are several factors which suggest these risk estimates may be too low and that actual risks are even greater."

Amphibole Mineral Fibers in Source Materials in residential and Commercial Areas of Libby Pose and Imminent and Substantial Endangerment to Public Health, Christopher P. Weis, Senior Toxicologist/ Science Support Coordinator Libby Asbestos Site December 20, 2001

"Exposure to contaminated indoor dust, even dust with a relatively low level of LA is an important pathway. This is because people spend most of their lives in their homes and exposure occurs continually. However, indoor dust is a secondary medium-it can only become contaminated through disturbance of some source of LA. Such sources may include, but are not limited to, vermiculite insulation, on property soils, off-property soils, or past vermiculite processing operations. Again, the most important step to break this pathway is to address the sources that are contaminating indoor dust or have the potential to contaminate indoor dust in the future. In Libby, EPA is not relying upon measures dust levels to decide if residential/commercial sources must be addressed. Our approach is to find and address sources with potential to contaminate indoor dust regardless of current indoor dust levels. In this regard, indoor dust action levels should not be considered triggers for overall cleanup, but only a trigger for aggressive interior cleaning by EPA. This approach ensures that situations that may present a short-term exposure hazard are addressed as quickly as possible."

Libby Asbestos Site Residential/commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum, December 15, 2003

Historically there appears to be no support for the EPA and Volpe Center's decision to leave LA source material behind in Libby structures. To leave vermiculite insulation behind temporarily contained in walls, voids and ceilings of homes in the state

as defined by Acting Administrator McGraw as "older and in poor repair" is merely to put off re-contamination until one of a number of either environmental or intentional breaches takes place and ambient dust is again subject to LA contamination.

Also there doesn't appear to be any internal or external support for the EPA's present position that low dose and infrequent exposure to LA material is safe or acceptable. To the contrary, the EPA has historically taken the adverse position source material must be removed or in the very least, "permanently" contained in order to not result in increased fiber concentrations in interior dust which the agency considers to be an important exposure pathway.

Simply stated, there is no minimum or maximum dose for Libby Amphibole asbestos that has been identified by either science, in the private sector, or within the EPA that is considered conclusively safe or acceptable. To disregard the potential of interior dust contamination by source materials left behind and subject to reintroduction into the living space is to operate in an unprotective and negligent manner.

The sponsoring agencies have an obligation to the impacted community to conclusively demonstrate the highest level by way of solid science and research that low dose and infrequent exposure to LA or VCI is safe and acceptable.

LATAG Recommended Actions:

The EPA and Volpe Center should either permanently contain the remaining VCI and LA material to the satisfaction of engineering science or simply remove it in such a manner as to fully protect Libby residents.

EPA and Volpe Center should either provide absolute assurance that any material left in place can and will be managed over the life of the structure, or if that assurance cannot be made, all hazardous material within a structure should be removed.

The EPA should rely only on the findings of peer reviewed science to act as the foundation for any future communications to an impacted public. If that science is not in place or needs to be reviewed by the proper authority before long term assumptions relating to human risk are communicated, the LATAG feels this care certainly merits consideration. To merely "assume" low dose and infrequent exposure presents little or no harm begs proof, especially when considering an already highly impacted public.

The agencies should fully inform the Libby community as to the "exact" dangers associated with exposure to Libby Amphibole using only conclusive scientific and medical information to support their assumptions. If the available information is not yet available, the EPA should perform the research that supports their theories and when that research is complete, communicate the findings to the Libby public. To assume low and infrequent dose is not harmful is simply not protective.

Make available to the LATAG the results of any scientific and medical research that support the position low and infrequent dose is acceptable. Through the continuation of Technical Assistance funding, allow the group to prepare and dispense community specific information that stresses this position in the most beneficial and comprehensive manner possible.

Put into place a complete research program that will finally address and define the actual on-site potential of low dose exposure to Libby Amphibole asbestos.

Develop a yearly monitoring program that ensures each property is not recontaminated by material left in place.

Work as a partner with the LATAG to prepare and dispense time critical information to each home or business owner that is left with VCI material in place.

EPA should reconsider its position with regard to trying to permanently contain VCI in the older structures in Libby and consider the protectiveness and cost effectiveness of demolition and replacement. Over the next 50 years of the structures life the potential for re-introduction as well as the potential for future ongoing exposure offsets the higher cost associated with replacement.

In the event VCI continues to be left in place within individual structures, EPA should compose a full record of exactly where the material has been left within individual walls, so residents and business owners know in advance where it is and how to implement the proper precautions so as not to breach containment.

4.5 Amphibole Asbestos Left in Place Uncontained in Lawns and Driveways

Action Level:

Any of the following conditions will generally trigger emergency response cleanup for that portion of the analytical.

Soils

- Visible confirmation of vermiculite or other vermiculite mine related materials in "specific use areas." A specific use area is defined as a garden, planter, or other defined area of a yard likely to receive significant use and generally not covered with grass.

- Concentration of LA in specific use areas or other yard soils by any analytical method greater than or equal to 1% asbestos.

Past EPA action levels included the visible triggering method under *Emergency Response* that is to say; if material was visible it was assumed to be hazardous and therefore removed. This approach was both protective and acceptable as a solution for cleanup in the eyes of the Libby community. The approach was solidly based on research and science and attempted to address the complex health problems directly related to exposure to amphibole asbestos by providing an adequate margin of safety for an already exposed public. A summary of that past position follows in the words of the EPA:

EPA Past Protective Position

"Asbestos fibers from the Libby mine site are hazardous to humans as evidenced by the occurrence of asbestos-related disease in area workers and residents. Workers exposed to asbestos fibers at the Libby mine site have been shown to experience clean and significant increases in the incidence of asbestos-related conditions, including asbestosis, lung cancer and mesothelioma. Asbestos-related lung diseases have also been observed in area residents with no direct occupational exposures, including family members of mine workers, and even in those with no known association with vermiculite mining operations."

Asbestos fibers can be detected in several types of source materials (yard soil, garden soil, driveway material, waste piles, indoor dust, vermiculite insulation) at multiple locations in and around the residential and commercial area of Libby. The contaminated materials constitute a potential source of asbestos exposure to area residents and workers."

Asbestos fibers in contaminated source material may be released into the air by a variety of activities similar to those that area residents or workers may engage in under normal living or working conditions. This demonstrates that a complete exposure pathway exists by which asbestos-contaminated source material may cause inhalation exposure of area residents and workers."

The concentrations of asbestos fibers that occur in the air following disturbance of source materials may reach levels of potential human health concern, as evidenced by a) exceeding OSHA standards for protection of workers following disturbance of vermiculite material, and b) exceeding EPA's normal risk range (1E-04 to 1E-06) for acceptable lifetime excess cancer risks for exposed humans. Actual risks may be even greater than estimated."

Page 3– Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health, Christopher P. Weis, EPA Senior Toxicologist / Science Support Coordinator.

"4. Disturbance of Contaminated Source Material Can Release Fibers to Air

Asbestos fibers in soil or dust are not inherently hazardous to human health if left undisturbed. However, most soils and dusts are subject to disturbance, either now or in the future, by many different types of activities that are common for residents."

Page 8– Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health, Christopher P. Weis, EPA Senior Toxicologist / Science Support Coordinator.

"Release from Yard Soil
At present, no data have been collected that specifically address the potential for disturbance-based release of asbestos fibers from yard soil to air. It is expected that release will not be extensive at locations that are grass covered, but could be extensive at locations that have little or no vegetative cover. Some release might occur through processes such as wind erosion, but human disturbances are likely to be of greater concern, especially under conditions when the soil is dry. This might include walking or playing in sparsely vegetated areas or disturbances of the soil from devices such as bikes, lawn mowers, etc. This conclusion is strongly supported by study of Addison (1995) who generated airborne dusts from a series of soils with varying levels of asbestos contamination. The study concluded that " even the lowest bulk amphibole concentration tested (0.001%) was capable of producing measurable airborne asbestos concentrations (greater than 0.01 fibers ml-1)."

Pages 9 & 10–Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health, Christopher P. Weis, EPA Senior Toxicologist/Science Support Coordinator.

"Visible Vermiculite

During the conduct of the CSS in 2002, EPA visually inspected many properties for vermiculite or vermiculite mine related materials (generally referred to just as vermiculite) in soils. If vermiculite was observed in a particular area (e.g. front yard, side yard, garden, etc.), no soil samples was collected in that area. If vermiculite was not observed, a soil sample was collected from that area. Past observations showed that when visible vermiculite was noted, samples confirmed the presence of Libby asbestos approximately 70% of the time using polarized light microscopy (PLM) (CDM 2002). If more sensitive methods were used, this number may have been higher. Thus the presence of visible vermiculite was considered a reasonably good indicator for the presence of LA and material that could serve as a potential source of LA to air or dust. Using visible vermiculite as a trigger for cleanup, rather than sampling every area that contained visible vermiculite, had the benefits of being conservative, protective, and simple."

Page 7– Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum, December 15, 2003.

"Based on this information and the Libby Administrative Record, EPA has made the following general conclusions regarding asbestos exposure in Libby.

The Amphibole asbestos associated with the Libby vermiculite is highly toxic:

The amphibole asbestos associated with the Libby vermiculite readily produces respirable fibers when disturbed;

When people may conduct routine activities in or around the amphibole asbestos there is a high probability for exposure to asbestos levels that present an unacceptable risk to public health; and,

As the number of exposure routes increase, so does the risk of developing lung abnormalities and further progressing to symptomatic asbestos-related disease.

Page 10– Action Memorandum Amendment for the Time-Critical Removal Action at the Libby Asbestos Site–Jack W. McGraw, Acting Regional Administrator EPA Region Eight–May 2 2002.

"4) Specific Exposure Pathways: EPA detected amphibole asbestos in 339 out of 1164 (29%) of the soil and soil-like media samples from Commercial/Residential Yards in the Libby Valley, with 3.4% of the samples at levels greater than 1%. EPA sampled 263 properties, and detected asbestos at 162 of them. Asbestos concentrations exceeded 1% at 21 properties (7.9%).

EPA has found waste piles of bulk vermiculite ore on residential properties. Ten out of 12 samples (83%) taken from these piles had levels from 1% to 10% amphibole asbestos."
Page 10– Action Memorandum Amendment for the Time-Critical Removal Action at the Libby Asbestos Site–Jack W. McGraw, Acting Regional Administrator EPA Region Eight–May 2 2002.

"It is important to note that EPA does not assert that soil concentrations of less than 1% LA are necessarily safe or acceptable."

Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria- December 15, 2003.

Present EPA Assumption - exterior vermiculite can be left in place

The operating assumptions outlined in the *Final Draft Response Action Work Plan* and *Final Draft Pre-Design Inspection Activities Work Plan* and *Libby Asbestos Site Residential / commercial cleanup Action Level and Clearance Criteria, Technical Memorandum* are designed to support the EPA's current decision not to remove LA contaminated soil from locations not considered "specific use areas" and effectively leave material in place in yards and lawns.

The new approach is further outlined in:

Design Criteria Decision, Presented to LATAG by EPA Project Manager

"Action levels / cleanup criteria–Note: action levels are still being evaluated by EPA; visual vermiculite will likely no longer be used as an action level except in flower gardens and planters; the following action levels are the ones currently being used: >1% at surface:>1% at depth—— ND; ND: 1 structure (both VCI removal and interior cleaning)——ND for Class d, e, and f, Libby amphiboles."

7.3.4.1 Response Action Criteria

"In general, soils will be cleaned up if visible vermiculite exists in specific use area such as a garden, or if analysis results of soil samples collected from the yard are greater than 1 percent LA."

Final Draft Pre-Design Inspection Activities Work Plan
3.1.2.2. Yard Areas and Driveways

"That is, visible vermiculite within yard area and driveways will generally not be used as an indicator for excavation activities. Rather, analytical results from soil samples collected from within these areas will be used to determine if excavation is necessary. Soil areas with sample results greater than non-detect (LA asbestos) will be considered contaminated and will require excavation."

Final Draft Pre-Design Inspection Activities Work Plan
3.1.2.2. Yard Areas and Driveways

"However, if vermiculite is found within yard areas and driveways in the form of tailings (i.e., fine, sandy texture, un-exfoliated vermiculite) these areas will be identified as requiring excavation."

LATAG Response:

The present EPA decision to leave exterior vermiculite in place is considered a huge step backward in the agency's overall commitment to the Libby Community as well as commitments made in the past to the state of Montana.

Based on the scientific experimentation performed in the *Phase 2 Sampling and Quality Assurance Plan* completed and published in March 2001, it was determined that exterior soils contaminated with Libby Amphibole asbestos presented a significant risk to human health. A number of experiments were performed to demonstrate the extreme friability of the LA source material and therefore, the health hazard the material presents to humans if disturbed under any number of human or mechanically caused circumstances.

Under the authorship of the *Final Draft Pre-Inspection Activities Work Plan, Final Draft Design Analysis Report and Final Draft Response Action Work Plan,* the EPA significantly reduces its commitment to remove contaminated exterior soils and specifically omits yards, driveways and other exposed areas that do not contain LA material that measures 1% by weight asbestos. However, in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria–Technical Memorandum, December 15, 2003 the same agency clearly states,*

"It is important to note that EPA does not assert that soil concentrations of less than 1% LA are necessarily safe or acceptable."

Two important assumptions need to be considered with regard to the EPA's new 1% action level.

First, the action level comes from "Asbestos Regulations" that are based on the toxicity of chrysotile asbestos and the EPA themselves compares the disease potency of the two different fibers (chrysotile to Libby Amphibole) in the same document.

"Libby asbestos (LA) is a form of amphibole asbestos unique to the Libby vermiculite deposit and is fundamentally different from more commonly found chrysotile asbestos." **It also merits mentioning the EPA is testing to establish the 1% with the use of Polarized Light Microscopy (PLM) which in the same document they state, *"Inexpensive analytical methods currently available (i.e. PLM) can detect levels of 1% or greater with some confidence.***

Requiring an already impacted community to continue to live around hazardous material present at levels the EPA itself determines to be neither safe nor acceptable by their own standards is neither protective nor safe. Further, to ask the same community to continue to risk the health and the safety of young children who might play, ride bikes, tumble, dig, and run across lawns containing known levels of hazardous amphibole asbestos as defined by an analytical method whose detection accuracy is described by the agency as *"Inexpensive analytical methods currently available (i.e. PLM) can detect levels of 1% or greater with some confidence."* is neither safe nor protective.

Second, The same "Asbestos Regulations" used by the EPA to determine not to remove soils from yards and lawns contaminated with Libby Amphibole asbestos also require abatement contractors to remove asbestos containing material that measures at levels below 1% **if the material is determined to be or become "friable" or has a chance of releasing fibers into the air when disturbed.** EPA themselves, characterize LA material in question as extremely friable and dangerous when disturbed by stating:

"It is extremely difficult to predict an airborne asbestos exposure (which is the exposure of concern for health and regulatory standards) based upon the asbestos concentrations in outdoor soil samples. A variety of factors can influence the extent of airborne exposures associated with asbestos fibers in soil, the most important of which appears to be disturbance of contaminated soil by humans activity."

As outlined in the EPA's current plans, huge quantities of vermiculite contaminated soils will now be left behind in open lawns, driveways and yards simply because it tests less than 1% asbestos by weight. Libby Amphibole asbestos fibers will be released from these contaminated areas if there is human or mechanical disturbance. The serious question is what human activities or mechanical disturbance might take place in a yard that could release LA fibers directly into the breathing zone. Such common activities might include:

Children playing, riding bikes, rolling, or running on the family yard.

Mechanical disturbance caused by mowing the lawn, roto-tilling, power raking, leaf blowing, snow removal, driving on the driveway, or simply running a car on an exposed driveway.

Natural disturbance, wind and water movement.

Physical disturbance, raking the lawn, walking on the lawn, raking fallen leaves.

Disturbance by pets, dogs and cats laying on the lawn or exposed driveway, pets rolling on the lawn, playing and running on lawns and driveways.

The potential for disturbance of Libby Amphibole asbestos left in place in the Libby lawns, driveways and yards is clearly far too significant to ignore. EPA and the Volpe Center offer no scientific or research based support for the dangerous theory that yards, driveways and lawns containing "unsafe and unacceptable" levels of LA could possibly remain undisturbed. To the contrary, lawns, driveways and yards by their own nature represent areas of heavy use and in as much, will release LA fibers when disturbed. Also the EPA and the Volpe Center offer no supported definition as to how much use or disturbance in these areas it might take to impact human health. Any agency that determines domestic yards and driveways are places of infrequent use simply isn't willing to accept the reality of the situation and might be making major decision prompted by cost containment.

The fact is the "specific use areas" as defined by the EPA and Volpe Center as being among the "only" areas on a property meritorious of cleanup, lacks the high level of scientific research support that might be expected to give them credibility. The "management in place" theories outlined in the *Final Draft Response Action Work Plan, Final Draft Design Analysis Report, Final Draft Pre-Design Inspection Activities Work Plan,* and for that matter the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum* with regard to decisions about soil and yard cleanup and the designation of "specific use areas" not only lacks any scientific research basis but contradicts research performed in the *Phase 2 Sampling and Quality Assurance Plan.*

Sadly, the prevailing reason for this sudden change in action level response is also clearly communicated by the EPA in their newly released documents:

"Cleaning up entire yards, large sections of yards, or areas that are infrequently accessed or disturbed is a much larger and expensive task and additional sampling is clearly warranted."

Again there is no research offered, modeling of definitive standards for the most important term used to set the prevailing action level "infrequently accessed." When it comes to the important interpretation of an action level, what guidelines are employed to concretely define "frequent" or "infrequent" access, who will employ those guidelines and by what level of experience will they be fostered?

To make important decisions without absolute guidelines to define their parameters is to merely say, the decision could be enacted in an arbitrary manner without the support of either modeling or research based studies. It should be kept in mind the importance of the potential of future exposure of the changing environment of science relating to LA toxicity when making decisions.

LATAG Recommended Actions:

It is of great concern to the LATAG that the EPA and Volpe Center apparently continue to rely on action levels based primarily on the suspected toxicity of chrysotile asbestos and not the more toxic asbestos form of Libby Amphibole (Asbestos Regulations and 1% volume) even when the best scientists in the agency already cite LA as at least one order of magnitude more disease potent than the chrysotile. This reliance on chrysotile as a base material to set standards is neither protective, safe or acceptable and negates many assumptions outlined in the *Libby Asbestos Site Residential / Commercial Cleanup and Clearance Criteria, Technical Memorandum Appendix: Screening Level Estimates or Exposure and Risk From Libby Amphibole in Air, Dust and Soil.* There is simply no margin of safety offered to the Libby community if this continues to be the accepted mode of operations of the EPA.

Lawns, driveways and yards should be extensively studied with regard to the actual amount of use and access before they are removed from consideration for cleanup. When this study is complete the results should be shared with LATAG.

For years, the EPA has operated and managed the Libby cleanup based on the use of "visible vermiculite" as an action level for cleanup, especially in areas where significant human disturbance may cause fiber release. In order to be "safe and acceptable" the EPA should return to this long standing method and action level or they should provide undisputable evidence by way of research that new 1% action level is indeed safe and protective now and in the future. There is little question family yards and lawns are contaminated with LA as per the findings in Containment Screening Study (CSS) and are not places of infrequent use and therefore are serious point sources as per the findings in *Phase 2 Sampling and Quality Assurance Project Plan.*

Available science research has indicated that children, because of their low body weight and high rate of respiration, are more susceptible to the inhalation of fibrous material and even more importantly, children are the ones who play in the same yards the EPA now thinks are places of infrequent use. To determine this new 1% standard,

what was the cohort base used by the EPA to assign the action level or were any extensive studies performed at all?

It is unthinkable to believe the impacted public of Libby is now willing to place at risk perhaps the only generation of community residents that might not be exposed and do so on the unsupported weight of an EPA assumption that 1% Libby Amphibole Asbestos is safe when they themselves say ***"It is important to note that EPA does not assert that soil concentrations of less than 1% LA are necessarily safe or acceptable."*** **It is simply unacceptable to take the risk with our children's health and safety when it comes to yard and lawn cleanup.** Yards and lawns should be carefully inspected, comprehensively sampled and analyzed and any visible sign of vermiculite should be removed without question or regard to cost.

A comprehensive research program should be implemented by the EPA to determine the exact risk lawns and yards present, even under the assumption of low level disturbance. This research is completely necessary to protect the lives of unexposed Libby children and further support the major decisions made on this project.

Lawns and yards should be cleaned thoroughly because they present an already recognized exposure pathway by allowing LA source material to be tracked into the living space. Even low levels of LA material left in lawns, driveways and gardens will be tracked into the living space and will accumulate over time, and therefore, they represent primary contributors to the contamination of interior dust.

Lawns that are covered with grass today may very well be absent that covering in the future. Therefore, the worst case scenario should be employed when decisions are made about material left in place and assumed to be inaccessible.

Lawns are mowed on a weekly basis in Libby and therefore are highly susceptible to mechanical disturbance.

Many Libby homes are surrounded by large trees and each year the raking of leaves creates significant disturbance of LA material contained near the surface of lawns. This disturbance creates dust levels that have a potential impact on the recontamination of interior space as well as present the risk of personal exposure.

Again, the EPA and the Volpe Center assume that infrequent exposure to hazardous materials left in place is not a problem with regard to human health and safety. They again make this assumption without offering research or science. If science or research exists to adequately support this assumption it should be submitted in detail to the LATAG for its immediate consideration.

In order to be either safe or protective the Volpe Center and EPA must return to the visible confirmation triggering action level used in the past for soils. Not do so will

require a second cleaning in the event LA is actually determined to be even more toxic than one additional order of magnitude.

Over the last few years the project has saved money by not testing soils and using visible vermiculite as a triggering method. In an effort to be more cost effective it seems to make sense to simply remove the material as has been the case historically. If not, comprehensive testing will be necessary to justify not removing the material.

4.6 Living with Vermiculite

To date, the EPA has released a number of "Fact Sheets" and mailed them to postal offices in and around the Libby Asbestos Site. *Living with Vermiculite, Basic facts and tips for Libby residents* are an example of one of those fact sheets. In those publications the EPA managers take a contrary position to that of their predecessors with regard to the assurance of acceptable margins of safety when it comes to physical exposure to LA and VCI material. In what might be considered an official EPA position on potential health risks, the agency downplayed the hazards associated with VCI and LA by exploring the premise that it is somehow safe to live near material as long as the right precautions are taken.

The EPA communication sends the wrong message to an already uninformed community. Few people, including toxicologists employed by the EPA or the scientific experts employed with the Volpe Center have any idea the exact amount of LA or VCI an individual can come in contact with before causing potential health risks. The EPA repeats over and over again in their "Strategic Planning Documents" and other information pieces that their primary concern when dealing with a hazardous material of unknown toxicity is to provide the utmost protection to a community by providing significant margins of safety when it comes to decision making.

It has been proven historically; Libby Amphibole Asbestos is just such a hazardous substance. Even the scientific community or the EPA Toxicologists have not yet determined its exact toxicity and effects on humans who are exposed to it. The same experts do not know the "Reasonable Allowable Dose" minimum or dose response.

There has never been a conclusive study performed that in any way places limits on the very serious health problems associated with the Libby Asbestos Site. However, case files presently in the CARD Clinic and Dr. Whitehouse's medical practice, identify asbestosis and mesothelioma patients who are sick as a result of very low dose and infrequent exposure. There are large groups of other medical cases (74 in one legal practice) coming from places like the Champion International Mill Site in Libby where the victims became sick as a result of low dose or secondary exposure. Throughout the Libby medical history, and as a result of the findings of ATSDR screening there are several cases of mesothelioma alone that come as a result of residents watching sporting events, working in close proximity to a hazardous location,

washing and maintaining vehicles used at the mine or mill site, etc. Still, the EPA is willing to communicate the following information to the Libby community:

"Remember, most of the health effects seen in Libby today are the result of high-level, on going exposures that occurred decades ago. Many of these exposures were related to work at the mine, which closed in 1990 (occupational), and to highly-contaminated areas such as the vermiculite piles around town (non-occupational). The piles have been cleaned up by the EPA, and the remaining materials pose far less risk, especially if homeowners are aware and avoid contacting or disturbing them. EPA continues to identify, remove and isolate remaining materials as rapidly as possible."

Simply stated, the EPA assumptions made regarding low level or even high level occupational exposures are unsupported by any conclusive scientific studies and run contrary to available medical information immediately accessible to the managers at EPA.

Large piles of vermiculate containing material still exist in the Libby community and are present in entire yards, driveways and in the mill site location, etc.

Living with Vermiculite is a good example of the EPA's new cavalier attitude with regard to the health impacts of Libby Amphibole Asbestos and represents a tragic message when directed toward a basically uninformed public fostered by not a shred of scientific evidence.

However, even if the EPA's present assumptions with regard to low dose were true, the potential of even single low dose, short duration exposure resulting in one additional case of mesothelioma or asbestosis within the impacted community would be of marked importance with regard to EPA's own risk assessment protocols or the agencies acceptable cancer criteria given the sparse population of Libby. To ignore the potential health impact of additional exposure due to potential access, serves to also set aside other scientifically sound positions taken by the EPA in the past.

"The rate of mesothelioma in the area is extremely high, with over 1 case reported per 1000 in the Libby area population. In Libby, asbestosis occurs approximately 40 to 60 times more often than the expected incidence. NIOSH evaluated U.S. asbestosis mortality rates by county and found results similar to those reported in the ATSDR mortality study; i.e., ***the death rate from asbestosis in the Libby area is among the highest in the nation."***

"Thus, EPA has concluded that Libby residents are a sensitive population. Asbestos exposures which would present acceptable risks to a healthy population may cause increase in disease for this highly impacted community."

Outlined within its work plans and expressed in its public communications, the EPA continues to ignore any commitment to the establishment of either acceptable margins of safety or allow for any protective margin of error should physical containment continue to fail inside the aging homes and businesses.

Instead of providing a suitable margin of safety in their work plans, public communications and decision making, the EPA and Volpe Center merely redefine the suspected risks and assume any future "significant" exposure to the members of the community will follow traditional patterns, which in their view are limited to high dose continuous exposure.

Very little public education has been offered the Libby community as to the exact toxicity of LA or VCI merely because that information does not exist, and what has been done is basically unsupported by conclusive research or science. The fact is, even the EPA can't educate a community about the risks associated with a material that remains undefined with respect to its latent effects on exposed humans. Rather than providing safeguards, adequate protection or even adequate warnings, the agency seems to go in the opposite direction with its public communications by placing the personal burden of protection directly on members of the impacted community.

In the EPA's *Living with Vermiculite* the communication places an overwhelming burden on the already impacted residents of Libby with its recent warning;

"Whenever Possible, Just Leave It Alone...EPA strongly recommends that any vermiculite be left alone and undisturbed. It is likely to contain asbestos. If well contained and undisturbed, vermiculite insulation poses no risk to an occupant of a building. However, if disturbed, potentially dangerous exposure may occur. The bigger and more frequent the disturbance, the greater the risk.

There are no certain guidelines on what is or is not safe."

It is virtually impossible for a homeowner to just "leave it alone" when source material drips from the walls and ceilings of their living space, is left behind in crawl spaces, under porches and in basements. It is impossible to just "leave it alone" when LA and mine tailings are left behind in lawns and driveways in unknown quantities as long as they test less than 1% asbestos. It is impossible to just "leave it alone" when unintended damage is done on the interior of a home where VCI is still contained within the walls and it is impossible to just "leave it alone" when contaminated buildings burn to the ground spreading friable material across the community where young children play, wind blows on occasion and trains rumble by unattended VIC for weeks at a time. And most tragically, it is impossible to "leave it alone" or even have any respect for it if the government agency in which a community places its entire trust is willing to make unprotective assumptions regarding toxicity without conclusive supporting evidence for those assumptions with peer reviewed science and research.

With regard to EPA's disregard for the provision of suitable safeguards and margins of safety, useful guidelines presently exist within EPA. They make the assumption that the Libby Amphibole asbestos is assumed more disease potent by at least one order of magnitude or more than the standard setting chrysotile asbestos used in the IRIS Risk Model. The OSHA allowable occupational standard for chrysotile is another standard we can look to for a basis of understanding. When compared to the EPA's determination that Libby Amphibole is one order of magnitude more toxic than chrysotile that standard becomes much higher than presently outlined under OSHA. For the EPA to again represent to a basically uninformed public; *"There are no certain guidelines on what is or is not a safe dose of Libby Amphibole"* is misleading and potentially fosters a sense of false security on behalf of those coming in contact with LA material.

"If well contained and undisturbed, vermiculite insulation poses no risk to an occupant of a building. However, if disturbed potentially dangerous exposure may occur" is again, a statement that can be viewed as misleading and provides an unwarranted level of comfort on behalf of those who might experience contact with LA, as opposed to the EPA taking a more protective approach when warning the public. The risky fact is, contained or left in place within an already dynamic environment, vermiculite can be disturbed by any number of occurrences unknown to an occupant including; running a ceiling fan, a furnace, opening and closing doors or simply sweeping or dusting in the presence of material containing vermiculite. Disturbance is indeed the key to exposure; however, every disturbance is neither known or intentional and therefore uncontrollable by the occupant at risk.

Further, stated within *Living with Vermiculite;*

"In some situations where disturbance of vermiculite will be slight, EPA understands that it may be practical and acceptable for homeowners or general contractors to conduct the work. Examples of this are small breaches of walls containing vermiculite or working for a very short time in or around soils that may contain vermiculite."

Once again, basically uninformed and untrained contractors are held responsible for the protection of their workers and are told to rely on OHSA is acceptable standards to gage that level of protection. EPA has recognized Libby Amphibole asbestos to be more toxic to a large degree. Therefore to instruct a contractor to rely on a standard known to be inadequate is neither protective or acceptable and further embraces a concept of false security on potentially hazardous jobs sites. With no formal training relating to asbestos removal or familiarity with LA specifically, local contractors are informed *"slight exposure"* is acceptable for both themselves and their workers without regard to the possibility of accumulative effects of exposures over time. While it may or may not be true that proximity to LA for very short durations might be somewhat safe, not knowing how often a worker or homeowner is placed in the situation leads to a very

uncertain conclusion with regard to a potentially hazardous exposure. The simple fact is, the EPA or Volpe Center can make no formidable or conclusive assertion regarding work place safety without supporting science and therefore, should rely on a more protective margin of safety.

LATAG Recommended Actions:

Living with Vermiculite should be removed from use and completely revised as soon as possible. An adequate public training program should be put in place for local contractors and homeowners that protectively addresses the potential hazards of working around LA and provide acceptable work precautions necessary to ensure worker safety in an unknown and/ or undefined environment. The proposed training program should also discuss the margin of difference between the health impacts of exposure to chrysotile as opposed to amphibole asbestos. The suggested training program should fully address the specific makeup of Libby Amphibole asbestos and its latent and long term effects on exposed humans. Workers and homeowners should be informed as to the potential health risks before being allowed to engage in work around LA material.

Baseline health assessments would be helpful on all employees working around LA as a long term protective measure against the long latency period associated with asbestos related lung disease.

In the absence of a more conclusive toxicity assessment for Libby Amphibole asbestos, additional information intended to inform the public should be developed to ensure the utmost in protection and margins of safety. Any further communication should express in understandable terms the exact hazards associated with exposure to LA or VCI source material with the highest regard for margins of safety. Future communications should be factual, scientifically supported and denote the unknown risks associated with exposure.

Until the EPA by the use of science and research, can conclusively define a minimum acceptable dose and a maximum allowable exposure, any further assumptions as to historic exposure in Libby should be extremely conservative in nature or not employed in communications at all. Libby's health problems did not happen exclusively due to long term occupational exposures.

Homeowners should be provided specific and detailed instructions regarding the exact location of LA and VCI left in place or contained within their homes or places of business. This proposed "structural mapping strategy" should be supported with specific instructions as to how to safely and effectively facilitate repairs in the presence of contained LA or VCI. Property owners should know first hand, where contained material is located within a structure and the exact potential for both personal exposure

and recontamination in order to make informed decisions about the need for structural or surface repairs.

A full time on-site "residential coordinator" directly associated with the EPA should be employed and trained in order to serve as the first point of contact for homeowners or contractors when engaged with any level of repair on a subject property containing LA or VCI. This individual should be instructed to approach home and commercial repairs in a conservative and protective manner and therefore, eliminate the ongoing potential for unnecessary exposures to property owners or workers in the future.

Access to this individual should be limited to Libby and Troy residents who have participated in EPA cleanup and whose structures are recorded on the CDM and Volpe Center data base. Specific design details and mapping should be maintained on each cleaned structure in order to allow the coordinator to make informed consultations relating to specific structures. The need for such a position will increase as more structures are considered for maintenance after cleanup.

This position should not be directly associated with or employed by any contractor presently working on the Libby Asbestos Site project.

4.7 Other Communications Relating to Assumed Risk

Throughout the last few years, there seems to be a growing attitude within EPA, Volpe Center, and among the Removal Contractors that infrequent exposure to Libby Amphibole Asbestos is somehow acceptable. These assumptions are not supported by available or published science or conclusive research and seem to run contrary to the EPA's own risk assumptions.

It is the position of the LATAG that any communication relating to the suspected risk associated with LA exposure (given its undefined nature) should carry the highest regard for protection and public safety.

Without scientifically or medically establishing maximum allowable dose specific to Libby Amphibole asbestos, the workers and those not yet exposed to LA fibers are left unsure as to the actual risks associated with contact to dust, contaminated air or source material. In a letter dated April 14, 2003, EPA's Project Manager addresses this serious lack of information when in the body of his letter he answers his own question:

(2. What risk is posed to firefighters addressing homes with vermiculite insulation? Should we be concerned?)

Answer: (This is a difficult question to answer. The risk depends on the duration and frequency of exposure, the amount of material disturbed, and the concentration of

asbestos during exposure. All of these can vary considerably from one case to another. For instance firefighting from a distance at a building with vermiculite insulation is likely to present no appreciable risk, while knocking down a wall with vermiculite insulation may present some. However, if exposure occurs more frequently, or if there are very high concentration levels, then the risk obviously increases. Exactly how much is too much is a question we just don't know the answer to."

While it is true EPA currently does not know *"Exactly how much is too much"* it seems we as stewards of public health and safety should at least consider certain margins of safety when answering questions about matters of risk when hazardous materials are admittedly undefined. Especially when it comes to individuals who come in contact with Libby Amphibole Asbestos on a frequent basis, such as firefighters, and especially in the event individual firefighters are already diagnosed with some forms of asbestos related disease, as is the case in Libby. When it comes to the serious potential of impacting human health and safety, in a potentially serious way, would it not be prudent to overstate the risk rather than understate it? In fact, doesn't the EPA have an obligation to the public it serves to be protective in its decision making and communication processes when dealing with unknown levels of risk? These responses to questions become further suspicious in the face of past studies and risk memorandums, including:

Fibrous Amphibole Contamination in Soil and Dust at Multiple Locations in Libby Poses an Imminent and Substantial Endangerment to Public Health: an Addendum to my May Memorandum of May 10, 2000.–Dr Christopher P. Weis Ph.D., DABT, Memorandum dated July 9, 2001 Wherein it states:

2) Mechanical disturbances of asbestos-contaminated soil or related material by activities similar to those that are likely to be performed by area residents or workers results in elevated levels of respirable asbestos fibers in the air. The concentrations of these fibers in the air frequently exceed OHSA guidelines, and estimated excess cancer risks can exceed EPA's typical guidelines by an order of magnitude or more in some cases. (Page 1).

"A mortality study for Libby area residents from 1979 to 1998, found increased rates of asbestos is (340 to 600 times higher than the normal background rate for the United States and mesothelioma (ATSDR 2000). Additionally, ATSDR, USPHS and EPA conducted a medical testing program from July through November 2000, of over 6000 individuals that worked or lived in Libby for at least six months prior to 1991. Preliminary analysis of data from over 1000 of the medical testing participants indicated that overall about 20% had chest x-ray abnormalities (identified by at least 2 of 3 B-readers) consistent with asbestos exposures (ATSDR 2001). Of note, almost 40% of those identified with chest x-ray abnormalities had no occupational-related vermiculite exposures.

Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health–Dr. Christopher P. Weis, Ph.D., DABT, Memorandum dated December 20, 2001.

5) The concentrations of asbestos fibers that occur in the air following disturbances of source materials may reach levels of potential human health concern, as evidenced by: a) exceeding OHSA standards for protection of workers following disturbances of vermiculite material and b) exceeding EPA's normal risk range (1E-04 to1E-06) for acceptable lifetime excess cancer risks for exposed humans. Actual risks may be even greater than estimates."
(Page 3)

"Summary of Evidence for Disturbance-based Release

Taken together, the data summarized above (including EPA's Phase 1 studies from the screening plant, export plant, and Rainy Creek Road, EPA's Phase 2 studies in the residential/commercial areas of Libby, and studies by W.R. Grace) strongly support the conclusion that human activities that disturb potential source materials can result in elevated concentrations of asbestos fibers in the breathing zone of residents and workers.) (Page 11)

" 4) Additionally, EPA has no methods available for calculating the risk of non-cancer health effects due to asbestos exposure, despite extremely elevated incidences of asbestosis mortality in the community of Libby (ATSDR, 2000). Libby residents have 40-60 times the national rate of asbestosis (placing Lincoln County, Montana, among the top ten counties for this condition in the country). The cancer risks estimated above do not address this condition or other non-malignant asbestos-related conditions (i.e., asbestos-related pleural disease) recently found to be occurring among a large number of Libby residents. Asbestos exposures as evidenced by non-malignant chest radiographic abnormalities, is also associated with an increased lifetime risk of lung cancer, especially among smokers. The models used to estimate cancer risks do not account for increased risk as a result of prior lung disease. Thus risks in Libby may be significantly higher as a result of historical exposure." (Page 15)

In order to make important decisions or to properly communicate the assessment of risk to the members of the Libby community it seems prudent to use a consistent message, one that is at least consistent with what has been said in the past. Further, in his letter addressing the potential risk posed to firefighters, the EPA official says:

"It is helpful to put risks in context. Firefighters face a large amount of risk during most response actions. Routinely, you face exposures to fire, smoke, accident and an almost unlimited amount of other hazardous substances. I would certainly assert that these other risks are of far more consequence than exposure to asbestos. These things can cause acute problems immediately, even death. You are aware of these risks and

take prudent actions to counter them. Not to diminish the issue, but when we consider risk from asbestos, we are often talking in terms of increasing your long-term risk of cancer or asbestos from one in a million to one in a hundred thousand or one in ten thousand." Page 3 EPA letter dated April 14, 2003.

The serious issue at hand is that the EPA simply does not have the conclusive scientific or medical information from which to base a reliable assessment of risk and will not until they develop a entirely new risk model which represents the real hazards associated with Libby Amphibole Asbestos. Without scientifically supported data and information, it is not only unprotective but imprudent to try to draw assumptions about risk and in turn communicate those assumptions in such a way so as to make workers feel comfortable without just cause. Would it not be more protective and prudent to preface such comments by saying "at this point we just don't know the risk" and at least allow those who are less informed to use the utmost protection when it comes to safety measures?

As a heavily impacted public, the people of Libby need consistent and scientifically sound information, proven by scientific studies, extensive research or peer reviewed experimentation in order to make proper decisions relating to community health and safety. Our own medical history as an impacted community fully demonstrates the extreme risks associated with both occupational and environmental exposure to Libby Amphibole asbestos. These exposures are the result of a cross-section of circumstances including, low dose exposure on a frequent basis, low dose exposure on an infrequent bases, high level exposure from occupational setting as well as secondary exposure at lower levels.

LATAG Recommended Actions:

It is of serious concern to the LATAG that we are sending out inconsistent information from various sources leading to a level of comfort that is neither supported by actual risk analysis or existing scientific research. The LATAG would like to support the proven position of the EPA when it comes to assessed risk, but has a duty to the public it serves to ensure that its own position is completely and conclusively supported by scientific research.

The LATAG would hope that through the ongoing process of "risk assessment" and their open participation in that process, a consistently sound message on risk can be established between the agency and the LATAG in order to facilitate LATAG's mandate to educate the Libby community about technical matters surrounding the cleanup process.

Prior Risk Assessment Studies and Assumptions

Under Emergency Response and as it appears under the proposed EPA work plan, no minimum dose standards exist. On the contrary, the *Final Draft Response Action Work Plan* seems to rely on the assumption that a low dose or short duration exposure to the same Libby Amphibole asbestos that has caused 178 recorded cases of Mesothelioma over the last 20 years is considered acceptable. The LATAG categorically disagrees with this planning assumption and does so in regard to the glaring existence of the medical evidence at hand that firmly contradicts the EPA's planning assumption.

Any consideration of the actual mesothelioma case numbers originating within the Libby area and having demonstrated exposures to Libby Amphibole asbestos will surely support the extra degree of planning necessary to eliminate additional low dose exposures in the future by residents inhabiting structures where vermiculate contaminated insulation was used and addressed under the proposed plan. As reflected in the intent of the *Final Draft Response Action Work Plan* and historically demonstrated in the work under Emergency Response, the EPA is simply not overly concerned with small amounts of VCI remaining in structures considered clean or contained on the property and within soil left in place on many properties. The overriding theory of the EPA officials, contractors and planners thus far is that low dose and infrequent dose to Libby Amphibole asbestos is entirely acceptable (Living with Vermiculate). Tragically this operating assumption is not supported by the only reliable and indisputable source of information available to ATSDR and the EPA, the medical records of screened victims.

The reported cases of mesothelioma that originated as a result of various levels of exposure to Libby Amphibole asbestos (Montana Department of Health) cannot be overlooked and should be the key factor in the presentation or proposal of any standards relating to the clean-up of Libby Amphibole asbestos. This has not been the case within the planning process of the EPA_nor can it be, given the overwhelming cancer caused by the Libby Amphibole asbestos over the last 20 years and its comparison to accepted cancer risk of 1 new cancer in a population of 10,000 employed by the EPA in its Risk Assessment procedure.

With respect to the existing cancer numbers originating as a result of documented cases of low dose exposure or secondary exposure to Libby Amphibole asbestos, the clean-up standards set within any reliable EPA work plan would reflect the removal or permanent containment of the extremely toxic hazardous material as opposed to the present attitude that a small dose is acceptable.

In the event the final approved and accepted EPA *Final Draft Response Action Work Plan* does recognize existing medical records of exposed victims and does not employ this crucial information as a planning tool, then at the very least the approved work plan should include absolute minimum dose standards relating solely to Libby Amphibole asbestos and set forth plans to maintain and ensure those standards are

achievable and enforceable. The proposed plan does not address either absolute low dose standards or make an attempt to recognize its importance to the future public health and safety of the community within the Libby Superfund site.

A further argument relating to the establishment of absolute low dose standards rests in the extremely important fact that historical medical information on record strongly indicates that exposure to either high or low doses of Libby Amphibole asbestos will not show disease pathology for at least ten to forty years. This latency period is further justification for the EPA planners to facilitate protective measures that address the potential risk as opposed to under evaluating those same risks, as seems to be the case in the assumptions made in the proposed *Final Draft Response Action Work Plan.*

Further complicating the potential risk associated to the Libby population includes two significant cultural factors that must be included in any assumption of site specific risk.

First, Libby has a high percentage of its population that smokes and has smoked for many years. This cultural factor predisposes the population for increased risks associated with both the onset of Lung cancer as well as playing a significant part in the potential acceleration of lung cancer that may be the result of exposure to Libby Amphibole asbestos.

Second, there is a significant number of Libby residents already diagnose with some lung abnormality associated with exposure to Libby Amphibole asbestos. To address such a population with risk standards designed to calculate risk in unexposed population certainly should require additional and comprehensive studies to actually determine the full impact of re-exposure, continuous exposure and significant levels of exposure with regard to this special cohort or population.

4.8 Libby Amphibole Asbestos Contained in Heating Ducts

One of the most significant residential exposure pathways cited by the EPA exists in the contamination of interior dust within Libby homes and businesses. This material represents little threat to human health if left undisturbed. However, when disturbed it is highly disease potent.

Risk assessments resulting from the use of either Berman Crump or the older IRIS risk model completely substantiate the potential health impacts of inhaled dust inside the homes and businesses located in the Libby community. A high cancer risk is assigned to the dust material by past sampling and analysis as well as projections made under acceptable risk assessment processes.

In homes, it is suspected that LA fibers originating from a number of pathways exacerbate the problems associated with interior dust. Fibers originating from interior vermiculite containing insulation have been identified as one substantial source of dust contamination, while another comes as a result of tracking in LA material from the exposed driveways, lawns and gardens surrounding the homes and businesses.

With regard to the potential for future human exposure through inhalation of interior dust, both the above mentioned pathways trigger action levels and screening levels outlined in the EPA's *Final Draft Response Action Plan, Final Draft Design Analysis Report and Final Draft Pre-Design Inspection Activities Work Plan need to be considered.*

Significant quantities of VCI material are now scheduled to be managed in place and it is assumed to be well contained in the homes and businesses of Libby. The structures in which this material is believed contained or isolated are older structures and will effectively change over time. Any VCI contained in these aging structures will be re-introduced either to the surrounding environment or to the living space itself, should physical deterioration or damage take place within the subject structure. In any event, the potential for substantial levels of LA fibers to once more be available for dust contamination is probable in the near and long term future of Libby.

The EPA and Volpe Center proposed plans call for only exterior soils containing 1% or greater to be removed from the lawns in the community. The remaining LA contaminated material will be a source for interior contamination over time. The 1% screening level is considered neither acceptable nor safe by the EPA, however, is used as the screening point from which removal action will take place. Based on this screening level assumption, soil concentrations in this range are predicted to correspond to excess lifetime cancer levels of 3E-05 to 3E-04 under IRIS Risk model (3 new cancers in a population of 100,000 to 3 new cancers in a population of 10,000) two cancers over the EPA acceptable limit or compared to the more conservative risk assessment offered by Berman–Crump of 3E-04 to 3E-03 or (3 new cancers in a population of 10,000 to 3 new cancers in a population of 1000) this more conservative risk model is based on Libby Amphibole asbestos and represents the potential risk for new cancer in the area of two to 27 additional cancers higher than the EPA acceptable levels.

Page A-21- Screening Level Estimates of Exposure and Risk from Libby Amphibole in Air, Dust and Soil

One of the primary exposure pathways identified by the EPA comes from people tracking in fibers from outside soils. Without removing this highly contaminated material from the lawns and driveways of Libby it should be assumed the process of interior contamination via tracking of fibers will continue.

Libby homes employing forced air heating devices will suck in and continue to re-circulate fibers in the future. EPA has acknowledged the most serious health hazard takes place when LA laden material is disturbed. The circulation systems of forced air heating devices

cannot help but disturb ambient dust contaminated with LA fibers. Generally the filtration systems installed on these forced air appliances are not sufficient to trap amphibole asbestos fibers and would need a HEPA filter insert to do so. There is a real possibility that any LA fiber located in forced air duct work is not currently sampled or analyzed during the employment of clearance tests in a home or business because of the need to maintain negative air pressure within the working environment.

Two possible exposure scenarios could take place:

- Dust in the duct work during the time of clearance is never tested or removed.
- Future dust recontaminated from either exterior tracking or from VCI escaping from containment will begin the exposure cycle after the original cleanup is deemed complete.

LATAG Recommended Actions

The duct work located in both homes and businesses in Libby should be cleaned thoroughly and aggressively and clearance tested independently to ensure proper clearance levels exist inside the closed systems.

As a secondary prevention, each appliance should be fitted with a HEPA filtration system and a current supply must be made available in Libby to ensure annual replacement is performed.

Property owners cannot be responsible for the replacement of potentially highly impacted HEPA filters without significant training, therefore, the EPA should create a replacement protocol to ensure maintenance is done by a qualified and protected individual.

The cost for this testing and filter replacement should not fall to the property owners and should be included in any cost benefit analysis addressing the comparison of removal or replacement of Libby structures.

4.9 Libby Amphibole Asbestos Left in Place in Crawl Spaces and Basements

Again the EPA, Volpe Center and CDM assume infrequent exposure to source material is of little or no concern. This assumption is based on a second scientifically unsupported premise that any source material left behind in crawl spaces and basements represent only low dose or infrequent exposure.

A serious lack of actual research, actual experimentation or even experience is offered to support the dangerous theory that LA or VCI material located in crawl spaces is somehow isolated from access or immune to natural disturbance. The agencies offer this theory based on

the assumption that residents seldom enter crawl spaces and disturbance is somewhat limited and therefore not of concern.

Most of the homes in Libby that have undergone attic cleanup have demonstrated some degree of material migration downward from the walls into the lower levels. This migrated material represents very finely ground material originating from larger pieces of VCI located higher up in the structure. With this description in mind, it stands to reason that the material able to migrate downward through a wall into the lower level of a structure would be more likely to be subject to disturbance because of its lower density and smaller size. It might also be easy to conceive that this migrated material would be more likely to enter the ambient air flow which occurs naturally in any crawl spaces designed to promote ventilation and more likely to become airborne when disturbed by either airflow or by human activity. Most, if not all, the utilities requiring entry are routed through the basements and crawl spaces in many of the older homes like those found in Libby. Therefore, it might be safe to assume that a high proportion of future utilities work within these homes will disrupt LA material left in place by the EPA.

The fine nature of this material allow it to hang from cobwebs, rough cut lumber and mix in the heavy level of ambient dust contained in these easily accessible areas which bear no resemblance to permanently contained areas.

Without the advantage of research, prior experimentation or modeling, the Volpe Center and EPA have left several crawl spaces and basements completely untouched and made no effort to clean. It should be clear to the agency planners; the very age and condition of the Libby structures dictate their continuous repair or utility replacement. Repairs to older water pipes, electrical systems, heating systems, sewer systems and such over the years, is common to older structures. To overlook this fact is clearly neither protective nor safe.

To work in highly contaminated environments on behalf of the property owner or a utility contractor "will result in some level of future exposure to hazardous amphibole asbestos." Frequently, new cable services are added or removed from Libby structures and more times than not, these services enter the buildings through holes in the walls or are directed through crawl spaces. Telephone service lines are run through crawl spaces and basements without pre-notification from the property owner that contaminated material is present in these places. Few property owners, if any, have information relating to the exact location or quantity of LA left in place within their homes and due to EPA publications like *Living with Vermiculite, the EPA* really doesn't think there is a problem, so why would property owners feel compelled to warn utility workers? The practice of leaving behind VCI and LA in Libby crawl spaces is a trap waiting to spring on any contractor or homeowner who has work to do in these contaminated areas. Again, the EPA or Volpe Center provide no conclusive answer when the question is asked regarding the minimum level of exposure that is considered safe.

Significant new exposures will occur as a result of leaving behind LA material in the under structures of Libby homes and businesses and will fall heaviest on contract workers

called out to work on older structures and to perform that work in these contaminated environments. EPA and the Volpe Center agree with the seriousness of this assumption:

"However, risks may enter a range of concern for residents who frequently engage in activities that bring them in direct exposure to vermiculite, or for trade's people who frequently work in homes with vermiculite insulation."

Screening Level Estimates of Exposure and Risk from Libby Amphibole in Air Dust and Soil–December 15, 2003

"When intermediate or short-term exposures occur, the exact magnitude of the risk depends on the duration of exposure as well as the age at exposure. For example, an exposure of 10 years duration that occurs at age 20-30 will pose a higher risk of lung cancer and mesothelioma than if the exposure were to occur at age 40-50. This age dependency is relatively minor for lung cancer but is quite marked for mesothelioma."

Screening Level Estimates of Exposure and Risk from Libby Amphibole in Air Dust and Soil–December 15, 2003

"Given the collective magnitude of exposures in Libby, EPA has determined that visible confirmation of open, non-contained, or migrating vermiculite insulation is sufficient justification for emergency response."

Libby Asbestos Site Residential / Commercial Cleanup Action Level and Clearance Criteria–Technical Memorandum– December 15, 2003.

LATAG Recommended Actions

Open and non-contained vermiculite located in crawl spaces and basements needs to be removed or appropriately contained in order for the cleanup to be determined successful and protective.

In the event the EPA decides to attempt to contain such contaminated material, the LATAG agrees with the proposed approach of cleaning exposed soil to approximately six inches by use of vacuum trucks and spraying shotcrete or gunite over the entire exposed surface. Insurance with regard to proper ventilation is highly recommended because of the possibility of mold caused by airtight shotcrete treatment.

In the event no approach is adopted by the EPA, the LATAG requests a complete disclosure of any research used by the EPA or Volpe Center relied upon to determine its decision to leave the subject material in place.

Section Five

Exterior Cleanup and Restoration

You Can't Feel the Loss Unless You are Willing to Admit It's There

Section Five Exterior Cleanup and Restoration

5.1 Decks and Porches

Action Level: No Specific Action Level Listed

The LATAG feels the procedure surrounding the cleanup of LA material located under decks and porches needs additional planning.

In the event the soils under a given deck or porch are sampled and detect the need for cleanup, the LATAG feels the subject structures should be removed and restored in order to facilitate a more cost effective use of resources and a quality cleanup.

The concerns of the LATAG group come from three distinct areas of concern:

1) Contaminated material under decks and porches originates from either seepage from exterior walls or from being put into place during either backfilling of the foundation or as an amendment to lawns or gardens. In any event, the material is assessable to pets and young children and therefore, should be considered an important point source for direct exposure or potential recontamination of the living space.

2) In the case where the decks and porches in question are made of wood and over time might undergo replacement or significant repair, these areas will be a source of recontamination during reconstruction or repair unless approached with care and caution.

3) Within the *Final Draft Response Action Work Plan* there are several references made to the LA material that is difficult to access or remove and the possibility that this material could be left behind and uncontained troubles the LATAG.

> *"In this memorandum the term "cleanup" is used generally to imply some type of response action and does not necessarily imply removal of contaminated material. In some cases, response action will be isolation or encapsulation of contaminated material. In some cases where contamination is difficult to access or well contained, and exposure is likely to occur very infrequently or not at all, the material may be managed in place."*

Libby Asbestos Site Residential / commercial Cleanup Action Level and Clearance Criteria Technical Memorandum–December 15, 2003.

Decks and porches are additions to homes that because of their construction could require a significant number of expensive project man hours to clean effectively were the structures to remain in place. Material located under the decks could become a future source of contamination and therefore would need to be addressed. Encapsulation under gunite or shotcrete is considered a possible approach that could show some merit, as long as, it is understood that the hardened material is a covering and not a supportive base. If used to support much weight, gunite will break up and deteriorate over a short time.

Deck removal, excavation and soil replacement seems like another option, however, restoration with both construction costs and material costs could make the process very expensive.

Exterior decks, porches and other attached structures should be appraised as to replacement cost and a credit awarded to the property owner so reconstruction by an outside contractor becomes a possibility. A list of accepted outside bidders should be maintained by CDM to be employed as sub-contractors after the property has been released back to the owner.

The suggested approach will accomplish two very important elements with regard to cleanup:

1) Allow for the systematic removal of attached structures in the most cost effective manner possible and save expensive man-hours.

2) Promote the effective removal of contaminated material.

A secondary benefit of this approach is that after the property is returned to the property owner they can decide how the decks and porches are reconstructed with new material. Some property owners might opt to do the construction themselves and therefore improve the value of property by adding a larger or more decorative replacement. Reconstruction of decks, porches and other attached exterior structures can be handled under subcontract in a much more effective manner at a lower cost to the project but will require expensive removal contractors. The proposed sub-contract arrangement could result in more homes cleaned each season, cleaner exterior environment and cost reductions through competitive bidding.

Bidding contractors should be selected on the grounds of work quality; they should be bonded and responsible to the property owner for the final product. The EPA and Volpe Center as federal agencies and contractors will be out of the loop once the property is cleared and turned over to the respective owner. Payout for new or replacement work will be agreed upon before sub-contractors are assigned and hired by the property owner and any warrantees on work will exist solely between the property owner and the contractor.

LATAG Recommended Actions

Decks and porches should not be sealed off by the use of screening material suspended from the deck to the ground. This approach is temporary in nature and does not keep pets and other animals from entering the contaminated spaces under the decks and porches and therefore tracking exposed material into the living space. Decks and porches should be removed, the footprint excavated and replaced as cost effectively as possible.

EPA and Volpe Center should replace exterior structure with credit only and not consider replacing these structures with expensive labor better employed in cleanup and remediation work as opposed to minor structural restoration.

5.2 Libby Amphibole Asbestos Material at Depth

Perhaps the least potentially dangerous material the EPA Superfund Project deals with is contaminated material buried at depth. Seldom if ever, is this material going to present a risk for exposure and if it does show potential risk in the future, proper contractor and property owner training and protective measures could greatly offset the potential for human exposure.

There is no scientific or research findings that associate amphibole material working downward into ground water and therefore, it is conceivable this material can be managed overtime in place. Therefore it is impractical for EPA to consider excavations deeper than eighteen inches from the surface, as long as, a good tight replacement soil barrier is laid in place. The eighteen inch depth should cover most minor digging performed by property owners to put in things like sprinkler systems, underground electrical lines in conduit, flower bed borders, new cement sidewalks and driveways etc. The eighteen inch depth will also cover the planting of most young trees and the digging of most postholes.

Excavations of most properties to a depth of more than eighteen inches on the mere assumption someone will dig deeper in the future, without first knowing the potential for re-contamination is not practical. The fact is, any excavation deeper than eighteen inches below the surface on properties having gone through cleanup and can be addressed through a permit process which should require specific training for contractors. Property owners should be warned as to the potential for recontamination below the depth of eighteen inches and specifically trained in the unusual event deeper excavations are planned. Contractors such as septic contractors, electrical and plumbing contractors, and other utility workers simply need to acquire permits and be trained to dig below eighteen inches on properties that have undergone cleanup.

The infrequent nature of excavations below the depth of eighteen inches should be justification enough for EPA not to remediate LA material below that depth. Instead time should be spent to ensure a proper seal is put in place above eighteen inches to protect against exposure.

The extreme costs associated with excavations below the depth of eighteen inches on large and small properties should not be a serious consideration. Instead, contractor training and a well managed permit process should be put into place.

Cleanup budgets, especially during the emergency response phase of the cleanup project should be assigned to immediate endangerment and potential exposures associated with that endangerment. Excavations below eighteen inches should not be considered in emergency response. Monies need to be assigned to structural and surface cleanups as a priority and as a matter of future course. Potential excavations below eighteen inches are better handled through training.

LATAG Recommended Actions

A training and permit process be put into place to address excavations below the depth of eighteen inches.

No properties are excavated below eighteen inches during the emergency response phase of this project.

Research is conducted to ensure tight soil caps are placed over LA material buried below eighteen inches.

Any large scale commercial locations remediated under emergency response that have LA material encapsulated below the depth of eighteen inches should decide on a site specific maintenance and training plan to address the problem of future excavations. This plan should include the participation of EPA O&M personnel.

Section Six

Risk Assessment

Reading the Names and Praying

Section Six Risk Assessment

6.1 Narrative

The *Final Draft Response Action Work Plan* should be revised to include a scientifically and medically supported *maximum dose level* for the subject material (Libby Amphibole asbestos). Many of the planning tools included in the plan are based on toxicity assumptions derived under the EPA IRIS Risk Model which is presently under study by the EPA. By its own admission, the EPA's IRIS Risk Model seriously skews the actual potential for risk resulting from exposure to Libby Amphibole asbestos. The *Final Draft Response Action Work Plan* and all planning documents (in order to be truly protective to both workers and Libby residents) should be revised to include upgraded assumptions that relate to the actual risk of Libby Amphibole asbestos.

LOW DOSE

Both within the work plan and in actual site-specific implementation of daily decisions being made relating to risks are based on assumptions made under the IRIS Risk Analysis that drives the project. These assumptions have the potential of relating a message of false security among workers and property owners that could lead to present and future exposure. Assumptions made about short duration exposure on behalf of property owners and workers based on OHSA allowable limits dictated by IRIS are simply not protective in nature and should be revised.

Assumptions such as:

> A little exposure for a short period of time is not considered injurious to human health.
>
> The visual confirmation technique for LA material in either interiors or exteriors and the assumption that if it tests "non-detect" or less than 1% by weight it is safe to be around without protection. There is simply no scientific or medical basis for this assumption. On the contrary, both EPA and CDM clearly acknowledge the risk within the text of their documents but continue to assume a little exposure is acceptable and that the PLM is an acceptable tool used to

the make samples fit into the column of non-detect in order to save the expense of more suitable analytical tools.

Christopher Weis, PHD., DABT, –December 20, 2001

"Moreover, it is important to recognize that the PLM method has a relatively high detection limit for asbestos, and a non-detect by PLM is not equal to proof that a sample is not contaminated with asbestos. To the contrary, other microscopic techniques (e.g., scanning electron microscopy) have shown that soil samples that are below the limit of detection by PLM do contain high levels of asbestos fibers."

Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria- December 15, 2003

"It is important to note that the EPA does not assert that soil concentrations of less than 1% LA are necessarily safe and acceptable."

"Libby asbestos (LA) is a form of amphibole asbestos unique to the Libby vermiculate deposit and is fundamentally different from more commonly found chrysotile asbestos."

"Inexpensive analytical methods currently available (e.g. PLM) can detect levels of 1% or greater with some confidence. Site-specific improvements in the use of PLM analysis at Libby have led to much confidence in sampling results and the ability to detect and quantify asbestos levels in soils at 1% and even less than 1%. EPA is currently testing several methods to determine their ability to detect and quantify levels less than 1%."

"In excavated areas, soil samples collected at the depth of the cut are non-detect for LA by PLM. If maximum depth of cut is reached (12 inches for yards, 18 inches for specific use areas, soil samples collected at the bottom of excavation must be less than 1% by PLM."

"Nearly all exposure comes from near-surface soils. These soils generate dust and are often actively disturbed. In most circumstances, contamination is also limited to near surface soils."

"It is important to distinguish that at least two variations of PLM analysis are being used in the Libby residential/commercial investigation and cleanup. A site- specific PLM method, which involves off-site preparation of the sample, is currently being used to analyze surface soil samples (where frequent, on-going exposure and dust generation occurs). This analysis is used to determine which specific areas require cleanup. Other methods of soil sampling

analysis are also being considered for these samples. All of these methods are intended to provide lower detection limits than "standard" PLM, which has traditionally been used for analysis of asbestos in bulk materials. However, "standard" PLM, by NIOSH Method 9002, was selected as the analytical method for clearance resting of soils at depth because of its ability to recognize soils that exceeds 1% LA, and because PLM can be performed on-site with short turn around time. This allows real time decisions to be made about whether further excavation is needed, and allows the excavation to be closed as soon as possible. Use of alternative analytical methods that might have lower detection limits than PLM are not feasible because they require off-site analysis and results may not be available for days or weeks. Leaving an excavation open for this time is hazardous and very costly."

"Based on the information available, EPA has developed an emergency response cleanup program that:

Leaves low levels of LA and minimizes the likelihood of future re-cleaning;

Considers the many uncertainties regarding asbestos analysis and risk assessment that suggests risks could be higher than anticipated and employs strategies (from sample collection to cleanup) to help compensate for these;

Reduces future management needs; and

Is protective, cost-effective, and implementable.

A review of EPA documents suggests two different positions on the use of PLM as a reliable analytical tool. The "standard PLM analysis" cited in the documents seems to be considered unusable as an analytical tool and the more sophisticated method as identified in some of the documents is yet to be proven or peer reviewed as to its overall effectiveness when used to determine lower levels of LA concentrations. For some years the EPA has been attempting to come up with a reliable "performance evaluation" procedure and it seems that different parts of that experimental protocol are being employed on-site to support day to day decisions that if wrong could lead to future exposure and cost ineffectiveness as it relates to the possibility of recleaning.

The LATAG would like to see the EPA complete its "Performance Evaluation," have it peer reviewed, and then employ it as a reliable decision making tool at the Libby project. Without the conclusion of that lengthy and costly process, PLM should be considered an extremely unreliable decision making tool especially when it has the potential of creating new exposures to Libby Amphibole asbestos on behalf of a generally uninformed public. LATAG recognizes both the cost and real time of using PLM as an analytical tool and certainly sees the benefit of expanding its analytical capabilities through site-specific experimentation. However, until the process is finally

accepted, any use should be checked through an ongoing quality assurance protocol that employs proven and protective analytical technique (TEM or SEM). To rely on PLM as the sole analytical procedure in this present environment is not protective.

Each day on cleanup sites throughout the Libby Project important cleanup and potential exposure decisions are made by the use of PLM. Most if not all the non-detect determinations made regarding material found at cleanup sites are made by PLM and should at least be subject to suspicion and certainly not be considered safe just because a non-detect finding returns to the work site. Workers, property owners and other members of the public rely on the representation that certain areas have tested non-detect and therefore can be considered safe. It cannot be stressed enough that the view of LATAG is that many new exposures could result from the casual representation that areas are safe because they tested non-detect or below 1% via either method of PLM without the advantage of a higher level of analytical testing used as a quality assurance tool for the suspect PLM.

LATAG is very concerned that potential new exposures will result because PLM analysis was unable to fully quantify the actual hazards potentially experienced by uninformed persons coming in contact with Libby Amphibole contamination and who assume a safe environment exists.

LATAG would like to see the EPA fully inform the Libby public as to the exact scientific capabilities represented by the use of PLM, support their position with peer reviewed research and modeling and establish the merits of PLM as an analytical tool based completely on its protectiveness with regard to human health and safety. If the EPA is without the ability to provide this level of assurance, the LATAG would like to see the EPA implement a "quality assurance protocol" to ensure that analysis by PLM is both completely accurate and protective when it comes to site specific decision making.

Questions

Where is the EPA with regard to the final development of Performance Evaluation?

When will the performance evaluation protocol finally be peer reviewed?

Is there a need within the EPA administrative structure to have performance evaluation peer reviewed by the scientific community?

When the exterior of a residential or commercial site is identified as one in need of cleanup under Containment Screening Study (CSS) and that determination was made by the visual sighting of vermiculite, how is it decided how extensive the cleanup of the property will be and where it begins and ends physically?

If during a cleanup addition vermiculite is discovered by visual sighting why is it necessary to test the material via PLM to determine if it will or will not be removed?

Once a cleanup begins is not the visual sighting of vermiculite still the action level trigger and if so, why is it necessary to test the material to determine if it contains 1% or not, why is it just not removed as a response to the action level trigger?

Because of the cost benefit of employing a visual sighting trigger, the LATAG completely supports its use for both exterior and interior cleanups, however, the process seems to be inconsistent once the actual work plan is put into effect. Is the LATAG justified in this position?

Section Seven

Future Actions and Followup

Whole Families Torn Apart by Disease and Who Watches Over Us

Section Seven Future Actions and Follow up

7.1 Final Comments

The LATAG would like to comment in a general way on the above mentioned section in the *Final Draft Response Action Work Plan.*

EPA Comments:

Based on the information available, EPA has developed an emergency response cleanup program that:

- *Focuses on elimination of exposures that are likely to occur frequently and continually over time:*

LATAG Response

We believe the EPA has made a considerable effort to remove large point sources of contaminated material and in as much has done a very good job. However, to leave source material behind in aging structures and in lawns is neither protective or in keeping with the original intent of the cleanup process in Libby. To leave the material behind and shift the financial responsibility to the property owner for long term maintenance completely ignores the well communicated point of the cleanup historically. It is realistic to assume that the State of Montana used its "silver bullet" to establish the Libby Asbestos Site and earmark its overall importance. If the state officials would have known that substantial materials would be left in place to be managed by property owners it is doubtful their valuable commitment would have been made. When the state decided to use its one time pick we were talking about material removal not containment or abandonment.

The project has effectively digressed from removal, to containment, to management in place, to a designation that if material is unlikely to be disturbed or tests less than 1% it is merely left in place and the residents of Libby can just stay away from it.
It would be interesting to know if the present EPA *Response Action Work Plan* would have been presented to the state of Montana to represent the blueprint for the cleanup in Libby whether or not it would have deserved the investment of the state's one time pick as a priority superfund site.

The simple fact is we still have ongoing exposure to some degree or other, the long term liability for final abatement of property is now slated to be borne by the property owner and the homes and businesses that have been addressed have only been partially cleaned up.

The EPA maintains it has developed a response plan that will accomplish the following:

- ***Removes nearly all identified LA sources, focusing on sources that are most likely to be disturbed.***

LATAG Response

While it is true that large point sources have been removed; the LATAG disagrees that all identified LA sources have been removed. Almost none of the homes and businesses in Libby are free of asbestos. To the contrary, there is a real possibility that the material left in place within these structures will be reintroduced back into the environment within a short time due to the natural aging process of wooden structures and the poor socioeconomic conditions of property owners in Libby. At best, the present cleanup offers nothing more than a temporary fix to the condition of VCI and LA material contained in private homes and businesses.

In addition, there is simply no available science or research that supports the assumption the remaining material in Libby will not be disturbed and therefore further contaminate the environment.

- ***Addresses the highest exposures in the quickest manner possible:***

The LATAG agrees however, the long term maintenance and management of the remaining material is a future problem that should be funded and dealt with in the near future.

- *leaves low residual levels of LA and minimizes the likelihood of future recleaning:*

LATAG Response

We wonder how receptive the Montana State Governor would have been to the use of the state's one time pick if the goal of the EPA cleanup would have been to leave behind residual levels of LA material.

Given the lack of scientific support for the assumption residual levels of LA are not harmful to human health, the LATAG wonders if we are charting a course for success or failure on this cleanup project. There simply is no scientific support for the assumption "a little exposure is alright," especially in light of the existence of medical information that proves otherwise. More than a few of the 178 mesothelioma cases on record come as a result of a little exposure but their fate will be the same as if high levels of exposure were experienced. There is no margin of safety built into the draft work plan which operates on the mistaken assumption that a little residual material is OK.

- ***Considers the many uncertainties regarding asbestos analysis and risk assessment that suggests risks could be higher than anticipated and employs strategies (from sample collection to cleanup) to help compensate for these.***

LATAG Response

The LATAG strongly disagrees. To leave LA contaminated material behind in lawns and driveways without the benefit of research, supports the assumption that material will not be disturbed and does not take into account the present direction of risk assessment that leads us to assume LA material is at least one order of magnitude more disease potent than other forms of asbestos. Leaving material contained temporarily in the walls of structures 40 to 50 years old does not take into account that the same material can and probably will be reintroduced back into the living environment. This does not respect the fact that LA material at low dose has already caused the diagnoses of several cases of terminal mesothelioma and the true example of risk is clearly apparent in those cases. An exterior cleanup strategy based on the decision to leave behind large amounts of LA material testing slightly lower than 1% when the EPA does not consider a 1% level to be either "safe or acceptable" under today's standards does not recognize the very real likelihood that the standards will be raised if a new risk model is agreed upon. Making site-specific decisions based on analyzing source material by standard PLM when the EPA itself says a non-detect under PLM in no way is representative of the fact that samples do not contain high levels of asbestos fibers when analyzed by more sensitive methods. The fact is that if a sample tests non-detect under standard PLM on the Libby Asbestos Site, significant decisions are made daily on the basis of that result when clearly if the same sample were tested with SEM the asbestos content may measure much higher. Relying on standard PLM to make decisions is not protective— it is negligent and has not recognized the normal risk assessment process.

- ***Reduces future management needs***

LATAG Response

The LATAG strongly disagrees, if anything, the decision to leave LA and VCI containing material in place requires much more future management. This management will be both costly and difficult under Operations and Maintenance and has a good chance of being placed directly on the backs of the impacted property owners.

- ***is protective, cost effective and implementable***

LATAG Response

Again the LATAG strongly disagrees considering the extreme costs associated with the management in place of the material left behind. That specific part of the equation in the Libby cleanup has not been cost effective. The process merely creates the potential to shift the future cost of final abatement to either the property owner or the county or city government in the

likely event of remodeling, physical damage or demolition. Representation that the response plan presents a scenario for cost effectiveness might be true if the equation disregards future costs associated with maintenance. With those cost folded into the process it is less likely to be cost effective.

The LATAG does not feel the response plan is protective to either present homeowners, future homeowners, tradesmen or certain cleanup workers. The group feels the present work force is at risk of exposure daily because the OSHA regulations under which they work simply do not recognize the hazards associated with amphibole asbestos.